

**MIDTERM EVALUATION OF
THE HEALTH SECTOR II PROJECT
IN HONDURAS**

POPTECH Report No. 98-142-073
September 1998

by

Frank Sullivan
A. August Burns
Mario Ganuza
Fernando Gomez
Patricia Paredes
Doreen Salazar
Bernardo Uribe

Prepared for

U.S. Agency for International Development
Bureau for Global Programs
Office of Population
Contract No. CCP-3024-Q-00-3012
Project No. 936-3024

Edited and Produced by

Population Technical Assistance Project
1611 North Kent Street, Suite 508
Arlington, VA 22209 USA
Phone: 703/247-8630
Fax: 703/247-8640
E-mail: poptech@bhm.com

The observations, conclusions, and recommendations set forth in this document represent to a considerable degree the views of the authors. However, selected elements in the report have been modified at the request of USAID/Honduras. This document does not represent the views or opinions of POPTECH, BHM, International, The Futures Group International, or the staffs of these organizations.

CONTENTS

ACKNOWLEDGMENTS	v
ABBREVIATIONS	vii
EXECUTIVE SUMMARY	ix
KEY RECOMMENDATIONS	xiii
1. INTRODUCTION	1
2. TEAM COMPOSITION	3
3. STUDY METHODOLOGY	5
4. ECONOMIC, POLITICAL, AND SOCIAL CONTEXT OF THE PROJECT	7
4.1 Recent Gains in Health	7
4.2 Structure of the MOH Service Delivery Model	8
4.3 Operations at the MOH Central Office	9
4.4 Field Operations	10
4.5 Potential Sustainability	12
4.6 Institutional and Multilateral Support	13
5. MINISTRY OF HEALTH MANAGEMENT SYSTEMS	15
5.1 Findings	15
5.1.1 Overview	15
5.1.2 Questions and Responses	15
5.2 Conclusions	23
5.3 Recommendations	25
6. CHILD SURVIVAL	29
6.1 Findings	29
6.1.1 Diarrhea	29
6.1.2 Acute Respiratory Infections	32
6.1.3 Expanded Programs for Immunization	36

6.2	Conclusions	37
6.3	Recommendations	38
7.	MATERNAL AND NEONATAL HEALTH CARE	41
7.1	Findings	41
	7.1.1 Current Maternal Health Services	41
	7.1.2 Neonatal Mortality	44
7.2	Conclusions	51
7.3	Recommendations	52
8.	FAMILY PLANNING	55
8.1	Findings	55
	8.1.1 Accomplishments	55
	8.1.2 Expansion of VS and IUD Services	58
	8.1.3 MOH Commitment	59
	8.1.4 Institutional Barriers	62
	8.1.5 Logistics	63
	8.1.6 Supervision	64
	8.1.7 Reporting	65
8.2	Conclusions	65
8.3	Recommendations	66
9.	RURAL WATER SUPPLY, SANITATION, AND ENVIRONMENTAL HEALTH	69
9.1	Findings	69
	9.1.1 Achievements	69
	9.1.2 Health Benefits	70
	9.1.3 Expansion of Coverage and Partnerships With Other Donors	71
	9.1.4 Sustaining Existing Water Systems: The TOM Program	71
	9.1.5 Participation of Communities and Women and Self-Reliance	74
	9.1.6 Protection of Watersheds	75
	9.1.7 Contributions of the MOH	75
	9.1.8 The TSA Program	76

9.2	Conclusions	77
9.3	Recommendations	77
10.	SUMMARY FINDING AND RECOMMENDATIONS	79
10.1	Overall Findings	79
10.2	Overall Conclusions	80
10.3	Overall Recommendations and Cross-Cutting Issues	81

APPENDICES

Scope of Work	A-1
Bibliography	B-1
Contacts	C-1
MOH Logistics Systems	D-1
Management System Tables	E-1
Maternal and Neonatal Information	F-1
Water and Sanitation Tables, Figures, and Text	G-1
In-Country Evaluation Calendar	H-1

ACKNOWLEDGMENTS

The evaluation team gratefully acknowledges the support and cooperation of all the Ministry of Health central staff who gave generously of their time and knowledge. Their help in making this an informative and productive experience was invaluable. We express particular appreciation to Leticia Castillo, Daisy Erazo, Maritza Ramírez, and Roberto Valladares who accompanied the team members in their fieldwork data collection.

We also appreciate the health personnel of the Ministry of Health regional and area staff who willingly gave of their time, their insights, and their energy in helping us to learn all we did so quickly.

We are similarly grateful for the cooperation and invariable courtesy with which we were received by the rural Honduran men and women who gave of their time to answer our questions.

The team's work was facilitated by the efficient planning and backstopping of the USAID/Honduras Office of Human Resources and Development.

Thanks are due to Jack Reynolds, a member of the team conducting a parallel evaluation on the Private Sector Population III Project who, having finished his own assignment, dedicated significant time assisting with the editing of one of these chapters.

Finally, special thanks are due to Marcela Gálvez for her efficient, cheerful logistic and secretarial support.

ABBREVIATIONS

AIEPI	<i>Atención Integral de las Enfermedades Prevalentes de la Infancia</i> (Integrated Management of Childhood Illnesses [also IMCI])
ACCESO	A process of decentralization initiated by the GOH to deliver more decision-making authority to local levels
AIN	<i>Atención Integral del Niño</i> (Integrated Child Attention [somewhat analagous to AIEPI])
ARI	Acute respiratory infection
ARR	Annual Results Review
ASHONPLAFA	Honduran Family Planning Association
BASICS	Basic Support for Institutionalizing Child Survival project
BEOC	Basic Emergency Obstetric Care
CA	Cooperating Agency
CESAR	<i>Centro de Salud Rural</i> (the lowest level of MOH service provision, staffed by a nurse auxiliary)
CESAMO	<i>Centro de Salud con Medico</i> (second lowest level of MOH service provision, staffed by at least one auxiliary nurse, usually several, and a physician)
CDC	U.S. Centers for Disease Control and Prevention
CHW	Community health worker
CODHEFOR	Honduras Forestry Development Service
CS	Child survival
CWB	Community Water Board
CYP	Couple-year of protection
DPT3	Diphtheria/Pertussis/Tetanus; third booster (complete coverage)
EEOC	Essential Emergency Obstetric Care
ENESF-96	1996 National Epidemiology and Family Health Survey
EPI	Expanded Program for Immunization
FHIS	<i>Fondo Hondureño de Inversión Social</i>
GAT	<i>Gerencia de Asistencia Técnica</i> (Technical Assistance Team)
GOH	Government of Honduras
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HS-II	Health Sector II project
IDB	Inter-American Development Bank
IEC	Information, education, and communication
IHSS	Honduran Institute of Social Security
IMCI	Integrated Management of Childhood Illnesses
IUD	Intrauterine contraceptive device
LISVAC	List of immunized children under one year
LISMEF	List of women in reproductive age

MIHC	Maternal-Infant Health Center
MMR	Maternal mortality ratio
MIS	Management Information System
MOH	Ministry of Health
MotherCare	USAID centrally funded project to reduce maternal mortality
NGO	Nongovernmental Organization
OJT	On-the-job training
ORS	Oral rehydration salts
ORT	Oral rehydration therapy
PAHO	Pan American Health Organization
PHN	Population, Health and Nutrition
PIL	Project Implementation Letter
PMU	Project Management Unit
PROAG	<i>Programa de Control de Enfermedades Diarreicas</i>
PROCED	Diarrheal Disease Control Program
PSP III	Private Sector Population III project
PVO	Private Voluntary Organization
QA	Quality assurance
RH	Reproductive health
SANAA	<i>Servicio Autónomo Nacional de Acueductos y Alcantarillados</i> (semiautonomous water-building entity of the Ministry of Health)
SCM	Standard Case Management for ARI
SIDA	Swedish International Development Agency
SIDA/ETS	AIDS/Sexually Transmitted Diseases
SIGAF	<i>Sistema de Información Gerencial, Administrativa y Financiera</i> (project-supported management and administrative information system)
SNIS	<i>Servicio Nacional de Información en Salud</i> (National Health Information System)
SO	Strategic Objective
TAS	<i>Técnicos de agua y saneamiento</i> (technicians in water and sanitation)
TAACS	Technical advisor in AIDS and child survival
TBA	Traditional birth attendant
TOM	<i>Técnicos de operación y mantenimiento</i> (technical specialist in operations and maintenance)
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Fund
UPS	<i>Unidad Prestador de Servicio</i> (Health Service Provider: CESARs, CESAMOs, and hospitals)
USAID	U.S. Agency for International Development
URI	Upper respiratory tract infection
VS	Voluntary sterilization
WSS	Water supply and sanitation

EXECUTIVE SUMMARY

The Health Sector II Project (HS-II) is a long-running, bilateral project financed by USAID and the Government of Honduras (GOH) to promote community health in rural Honduras. The project purpose is to ensure a sustainable, effective, public, primary health care system by improving the quality, accessibility, and sustainability of effective child survival, family planning, reproductive health, and STD/AIDS prevention practices.

From May 15 to June 26, 1998, a seven-person, multidisciplinary team conducted a mid-term evaluation of the HS-II project. The team was composed of specialists in organizational development, management, child survival, maternal and neonatal care, family planning, logistics, and water and sanitation.

Family health has been steadily improving in Honduras over the last 25 years, partly as a result of enlightened public health policy. Infant mortality has fallen from 86 deaths per 1,000 live births in 1976, to 42 deaths in 1993. Coverage of all key vaccines has climbed steadily and is now over 90 percent. In fact, Honduras has the best record in Latin America in vaccinations for a country of its socioeconomic status. The total fertility rate has fallen from 7.5 percent in 1975 to 4.9 percent in 1995. Life expectancy has increased from 54 years in 1970 to 70 years in 1995. Contraceptive use has risen from 40.6 percent in 1989 to 50.0 percent in 1996. Exclusive breastfeeding in children two to four months old increased from 23.2 percent in 1991 to 29.5 percent in 1996.

Nevertheless, there are a number of areas where substantial improvement has not yet taken place, particularly in rural areas. The total fertility rate in rural areas is virtually double the urban rate. Contraceptive use is 40 percent in rural areas compared to 62 percent in urban areas. The rate of contraceptive use in rural areas has remained stagnant for over 10 years. The maternal mortality ratio is still alarmingly high at 221 deaths per 100,000. Thirty-two percent of women in rural areas give birth in medical facilities (compared to 91 percent of women in urban areas); many maternal deaths occur in rural homes.

The first level of Ministry of Health (MOH) service delivery is provided through health posts called *Centros de Salud Rural* (CESAR), staffed by an auxiliary nurse; the next level of care takes place at a *Centro de Salud con Medico* (CESAMO), staffed by at least one auxiliary nurse and a physician. Although both of these facilities try to provide integrated primary health care, the MOH's organizational structure is not consistent with a vision of integrated community health, characterized as it is by program-driven structures. Strategic planning does not take place and managerial skills are in short supply. Graduate and auxiliary nurses and community promoters are frontline, primary health care workers, but the importance of their roles is not appreciated. Nevertheless, many staff were found to be dedicated and motivated. The MOH is handicapped by the lack of a strong legal mandate to implement long-term policies that could enhance sustainability.

The evaluation team recommends numerous organizational and managerial changes in the MOH. Attention should be given to improving the strategic vision of planning staff and the management skills of field staff. The project should continue to support MOH efforts to reform and reorganize the referral system. Continued support should be provided to the MOH's Supervision/Monitoring/Evaluation mechanism and to Management Information System (MIS) efforts, which are starting to achieve important results. Decentralization processes should continue to receive project support. Auxiliary and professional nurses should receive further training, while the MOH conducts a careful study of the possibility of "buying out" older field staff with a retirement bonus. The project should support a significant initiative of cost recovery at the level of the hospitals and health posts. One of the important foci of the minister's "New Health Agenda" (*Nueva Agenda en Salud*) is quality assurance, and there is complete congruence between this strategy and the total quality care initiative already underway in the project, which can now be strengthened.

Key project interventions in child survival are directed to diarrhea, pneumonia, and immunizations. Diarrhea is still the first cause of mortality for children from 6 to 11 months old, although diarrhea-associated mortality has decreased as a cause of death for children under five years of age. While the use of oral rehydration therapy (ORT), including the use of oral rehydration salts (ORS), is widespread during diarrhea, appropriate nutritional and drug management is still a problem, because health personnel still rely on the use of antibiotics to treat simple cases of diarrhea. Identification and case management of upper respiratory infections and pneumonia were observed to be less than adequate. Integrated care for the child at the community and institutional level should continue to receive significant project support, drawing on the excellent materials prepared by the Basic Support for Institutionalizing Child Survival project (BASICS). Community volunteers need better supervision by *Unidad Prestador de Servicio* (UPS) staff. The immunization cold chain needs to be maintained better. The quality of hospital care deserves further analysis: efforts to discourage the overuse of intravenous fluids and antibiotics to treat diarrhea are needed.

The evaluation found that the MOH should develop a comprehensive program for safe motherhood that realistically serves the needs of the rural majority. Such a program could be developed by implementing a country-wide educational program to teach rural women, their families, and communities how to recognize danger signs during pregnancy, labor, and the neonatal period. A major effort should also be made to provide basic emergency obstetric services at the community level. To provide these services, community traditional birth attendants (TBA) should be supplied with and trained in the use of emergency drugs to prevent and control hemorrhage after birth. UPS personnel should also be trained in the use of these drugs, and in the use of intravenous fluids. The project should support the MOH in expanding the number of Maternal-Infant Health Centers (MIHC), to increase the number of births attended by trained personnel. Also, every public hospital must develop the capability to provide quality essential obstetric care.

Despite some favorable developments in family planning, the MOH network does not yet provide adequate family planning services. A national education campaign on reproductive risk should be started and discreet, vigorously implemented work undertaken at the field level to satisfy the large unmet need for family planning services in rural areas. One recommendation is to strengthen and expand reproductive health and family planning service delivery in selected UPSs. Second, the United Nations Population Fund (UNFPA) will soon publish a well-designed, well-tested, modular training course in reproductive health for auxiliary nurses; this course is an ideal vehicle to train a large cohort of auxiliary nurses in a short time. Third, the evaluation recommends that the staff of the MIHC and the staff of the "super CESAMOs" be the first to receive family planning refresher training. Meanwhile, USAID should continue to encourage the Government of Honduras to implement population and family planning activities more energetically. USAID should support efforts to incorporate family planning and management of contraceptive methods into medical and nursing school curricula; it should also continue working with the MOH to revise norms and regulations governing family planning. USAID should work with the MOH to expand the availability of contraceptives and to define which contraceptives should be provided at each level of care. Depo-Provera® should be introduced as a method to be managed by auxiliary nurses at the CESAR level, and the MOH should make Depo-Provera and IUD services available everywhere where assisted childbirth takes place.

The rural water supply program of the HS-II project has exceeded all goals and produced important results, at a cost equal to or less than international averages. Recent surveys indicate that child mortality is significantly lower (44 deaths per 1,000 births) in households with potable water taps on the property than in households without (70 deaths per 1,000 births); the difference is entirely for children 1 month to 59 months old, where the majority of child deaths nationwide are attributed to diarrhea. In homes without potable water, the risk of death for newborns is 1.9 times higher, and for children one to four years old, 2.3 times higher than in homes with potable water. Partly as an outcome of project support, the percentage of rural homes with potable water taps increased from 41 percent to 53 percent. Much of recent USAID support for rural water and sanitation has been for training and support of a new Operations and Maintenance Technician program (TOM); the evaluation found the program to be running well. Given the low per capita cost of water and latrine systems compared to high health benefits, USAID should consider continuing to invest in water supply infrastructure. To meet national targets in a period of six years would require approximately \$26.0 million in external resources, and \$15.0 million in local resources.

One of the questions put to the evaluation team in the Scope of Work was what USAID should do over the next five years to increase rural contraceptive prevalence by at least 10 percentage points. The team believes that if the strategies recommended in this evaluation can be undertaken, there is every likelihood that rural contraceptive prevalence will go up by the desired amount in the next five years, and that significant public health gains will come about as a result.

KEY RECOMMENDATIONS

Strategic Vision

- The project should consider financing sector-wide and ministry-wide strategic planning exercises.

Role Differentiation

- The team endorses USAID's pilot study of the referral system currently underway. The project should support MOH efforts to reform and reorganize the referral system in whatever ways possible.
- The project should continue the recently begun quality assurance technical assistance directed to regional hospitals, particularly regarding care for women with obstetric complications and children under five with severe acute respiratory infection (ARI).

Management Skills

- The project should continue to support MOH efforts to improve staff managerial skills at all levels, including CESAR and CESAMO staff.
- Continued support should be provided to the Supervision/Monitoring/Evaluation mechanism and to SIGAF, which are starting to achieve important results.
- ACCESO's processes should continue to receive support. The project should make a concerted effort to channel funds more efficiently and more quickly to health areas, CESAMOs and CESARs.

Staff Nurturing

- The project should support activities around the creation of a "culture" of quality of service throughout the MOH, especially in CESARs and CESAMOs.
- The cadre of auxiliary nurses and professional nurses should receive further training. This training should be conducted in an accelerated manner such that all nurses and auxiliary nurses in the project area have participated in upgrading their technical and administrative skills within a given period of time—perhaps two years.
- The MOH should conduct a careful study of the possibility of using retirement bonuses to "buy out" older MOH nursing staff. USAID should be approached to see what support it could offer in this regard.

Financial Sustainability

- The project should support a more vigorous campaign of cost recovery at the level of hospitals, CESARs and CESAMOs.

Child Survival

- The integrated management of the child in the community and at the institutional level (Integrated Child Attention [AIN] and AIEPI) should continue to receive project support. AIN/AIEPI training should be expanded, drawing on the excellent materials prepared by BASICS.
- A realistic system for supervision of community volunteers and health personnel needs to be designed and implemented.
- The current protocol in MOH manuals for diarrhea and ARI that allows health care providers to treat children when referral is not possible should be put into practice.
- An important strategy is to delegate more authority to, and improve the problem-solving and patient-treatment ability of, the CESAMO staff.
- Innovative pilot experiences to foster community involvement in day-to-day activities at the health posts should be encouraged.
- Cold chain maintenance must be improved. Meanwhile, it is not yet an appropriate time to reduce or withdraw funds from the Expanded Program for Immunization (EPI).
- The quality of hospital care deserves further analysis. Hospitals need to improve their level of hygiene and the safe disposal of waste and biological/hazardous material.

Safe Motherhood

- A country-wide educational program should be implemented to teach rural women how to recognize danger signs during pregnancy, labor, and the neonatal period. The structure of the program should be multidimensional and directed at the family, the TBA, MOH service providers, and the community. USAID should hire a Cooperating Agency specialized in this area to work with the MOH to implement this recommendation.
- A similarly major effort should be put in motion to provide basic emergency obstetric services at the community level, including enhanced TBA and MOH personnel training in the use of emergency drugs to prevent and control hemorrhage after birth.

- The project should find flexible ways to support well-run Maternal-Infant Health Clinics, and to replicate them wherever possible to increase the number of births attended by trained personnel.
- Every public hospital should develop the capability to provide quality essential obstetric care.

Family Planning

- Family planning services should be strengthened in selected UPSs. Training of auxiliary nurses in IUD insertions, Depo-Provera, pelvic examinations and cytology screening should be carried out for these UPS staff.
- Large-scale family planning training should be given, using the soon-to-be-published UNFPA training course for auxiliary nurses in reproductive health. The project should support a "blitz" campaign to upgrade the family planning knowledge of every frontline physician, nurse, and nurse auxiliary in the project area in a relatively short period of time—perhaps two years.
- The staff of the Maternal-Infant Health Centers (MIHC) and of the "super CESAMOs" called for in the *Nueva Agenda en Salud* should receive the UNFPA training early.
- USAID should continue to encourage the Government of Honduras to adopt population and family planning strategies that highlight the health, as well as the socioeconomic and demographic benefits of such activities.
- USAID should support efforts to incorporate family planning and management of contraceptive methods into the medical and nursing school curricula.
- USAID should work with the MOH to expand the availability of contraceptives in the country and to define which contraceptives should be provided at each level of care. IUDs and Depo-Provera should be introduced as a method to be managed by auxiliary nurses and made available at the CESAR level.
- The MOH should make IUD services and Depo-Provera available everywhere where childbirth takes place and complications from miscarriages are treated. IUD and Depo-Provera training should be provided to all nurses and physicians who provide these services.
- USAID should provide support for surgical sterilization in MOH facilities where demand and conditions warrant it.

- The project should support the development of community educational materials that clearly describe benefits of reducing fertility and limiting and spacing births, and that address common myths and misinformation on family planning.

Water and Sanitation

- Given the low per capita cost of water supply and latrine systems and the high health benefits gained from these systems, USAID should consider continuing to invest in water supply system infrastructure until 75 percent of the rural area is served.
- To improve the effectiveness of the TOM program, USAID should work with the *Servicio Autónomo Nacional de Acueductos y Alcantarillados* (SANAA) to build incentives for communities that responsibly operate and maintain their systems.

Additional Key Recommendations to the Ministry of Health

- The MOH information system is in need of major overhaul and excellent first steps have been taken to begin the process. The process should continue.
- The MOH logistics system needs substantial restructuring and recommendations are put forward to start the process.

Additional Key Recommendations to USAID

- The Project Coordination Unit should be dissolved, and an independent financial contractor hired in its place.
- A number of training recommendations have been made. The evaluation team recommends the contracting of local training firms so that such training programs can be accomplished on a number of different subjects within a fairly limited period of time—perhaps as little as two years. In like fashion, a national campaign to convey the implications of reproductive risk should be run by an organization outside the MOH.
- The project should continue recently initiated activities addressed to total quality care. In fact, the Mission should consider inviting a Cooperating Agency specialized in total quality care to establish a full-time presence in the country.
- Over the medium term, USAID should begin to push for the creation of an intermediate nursing career track, to produce more licensed nurses in a shorter time, given the current and projected serious shortage of graduate nurses in the country.

1. INTRODUCTION

The Health Sector II Project (HS-II) is a long-running bilateral project financed by USAID and the Government of Honduras (GOH) to promote sustainable community health activities in rural Honduras. An original grant was signed in June 1988; the grant was amended several times and is now projected to end on September 30, 1999. The goal of the HS-II project as most recently amended (Amendment 22) is to improve family health. The project purpose is to ensure a sustainable and effective public primary health care system in Honduras by improving the quality, accessibility, and sustainability of effective child survival, family planning, reproductive health, and STD/AIDS prevention practices.

Project activities provide technical assistance and financing to the Ministry of Health (MOH) to achieve improvements in four areas:

- (1) In child survival, anticipated outcomes are the introduction of new approaches and improved case management of pneumonia, exclusive breastfeeding, growth monitoring, and integrated child health care; and maintenance of very high immunization coverage of children in DPT, measles, polio, and tuberculosis and tetanus toxoid immunization in women.
- (2) In reproductive health, anticipated results are the introduction of new approaches to family planning and reproductive health (RH) and improved quality of RH services and referrals, as well as increased MOH purchase of contraceptives.
- (3) In STD/AIDS, anticipated outcomes are improvement in the delivery of STD/AIDS prevention and treatment programs.
- (4) In support of national programs of immunizations, oral rehydration therapy, and environmental health, objectives are to assist the MOH in further decentralization; complement the implementation of a national environmental health strategy; strengthen the managerial capability of the MOH in finance and administration; improve MOH supervision, monitoring, and evaluation; improve the MOH's health information system; improve the MOH's management of its human resources; and implement an effective information, education, and communication (IEC) policy.

As described in the Scope of Work (SOW) (see Appendix A), the purpose of the evaluation was to assess to what extent the project is contributing to USAID/Honduras' Strategic Objective of "improved family health"; to identify constraints and make recommendations for the remainder of the life of the project in terms of priorities, strategies, and definition of outputs and targets; and in light of USAID/Honduras' new Strategic Plan for FY 1998-2003, to identify activities that will contribute to the Mission's health objective of "sustainable improvements in family health." STD/AIDS did not figure in the focus of the SOW, because that component had recently undergone a separate assessment.

In the evaluation team's introductory meeting, a compressed SOW was presented to and accepted by USAID. That SOW proposed a review of areas of improvement and learning for the future, rather than a "counting" of results of the past. Areas of particular interest were as follows:

- Decentralization (including ACCESO);
- Increased effectiveness of the rural MOH delivery system, including maternal and child health (MCH) service delivery and all aspects of family planning;
- Maternal mortality and obstetric emergencies;
- A maintenance or increase in current levels of couple-years of protection (CYP), including amplification of the choice of methods and the introduction of Depo-Provera, and a renewed focus on a rural clientele;
- Sustainability in water and sanitation activities and the Expanded Program for Immunization (EPI); and
- Assessment of the commitment of the MOH to implement a high-profile program of family planning.

The structure of the report is as follows. This Introduction sets the broad context of the document, followed by chapters on team composition and study methodology. Major sections of the report are the chapters that describe the economic, political, and social context of the project; MOH management systems; child survival; maternal health; family planning; and water and sanitation. Each section describes findings, conclusions, and recommendations and answers detailed study questions that the team was asked to look at in the SOW. The main body of the report concludes with a summary of findings and recommendations.

In addition to POPTECH's standard appendices—the Scope of Work (Appendix A), bibliography (Appendix B), and list of contacts (Appendix C)—this report includes an appendix on MOH logistics (Appendix D); appendices with information related to the specific sections on management (Appendix E), neonatal health (Appendix F), and water (Appendix G); and an in-country calendar (Appendix H).

2. TEAM COMPOSITION

POPTECH's multidisciplinary evaluation team was composed of specialists in organizational development, management, child survival, maternal and neonatal care, family planning, logistics, and water and sanitation.

The team leader was Frank Sullivan, who has an M.P.S. in international development, 25 years experience in overseas programming, and a specialization in organization development and project management. His experience includes multiyear assignments in Bangladesh, Honduras, Ecuador, Bolivia, and the Dominican Republic. In addition, he has done consulting work in Thailand, Nicaragua, Angola, Bolivia, and the United States.

The team's management specialist was Mario Ganuza, who has an M.B.A. and a B.S. in civil engineering, and experience in organizational development, business, and strategic planning. He has had multiyear assignments in Panama, El Salvador, Nicaragua, and the United States, and has done consulting work in Bolivia, El Salvador, Honduras, the Dominican Republic, Bangladesh, Belize, the United States, and other countries. He also has previous experience working in the health sector in Honduras.

The child survival specialist was Patricia Paredes, who has an M.D. and an M.Sc. in community health, and is a doctoral candidate in public health at Johns Hopkins University, with experience in child survival and community-based interventions to control childhood diarrhea. She was personal advisor to the minister of health in Peru and to the chairman of the Health Commission of the Peruvian Congress. She has done consulting work in Peru and Ecuador, and has done research on the public health issues of Peru, Bolivia, and other countries.

The maternal and neonatal specialist was A. August Burns, P.A., certified midwife, M.P.H., who has experience training midwives in Latin America, and is coauthor of the recently published *Where Women Have No Doctor*. Her experience includes multiyear assignments in Bolivia and Guatemala. Furthermore, she has done consulting work for the Center for African Family Studies, Planned Parenthood, the Institute for Social Ecology, the Vermont Children's Forum, and the Vermont Committee for AIDS Resources, Education and Services.

The family planning specialist was Fernando Gomez, who has an M.A. in sociology and over 20 years experience in family planning and health in Latin America, including experience in the design, management, and execution of projects. He is currently executive director of the Regional Population Center in Bogotá, Colombia, and has worked both full-time and as a consultant to AVSC International, the Population Council, USAID/Colombia, and the Colombian Association of Medical Schools.

The logistics specialist was Bernardo Uribe, who has a J.D. in law and political science and a B.A. in business administration. Mr. Uribe has experience in logistics training and implementation of a

national Logistics Management System. His experience includes multiyear assignments in Peru and Bolivia, and he served both as consultant and full-time staff for John Snow, AVSC, and Pathfinder, and specializes in logistics management, management information systems, family planning counseling, and training of trainers.

The water and sanitation engineer was Doreen Salazar, who has a P.E., an M.S. in environmental engineering, and a B.S. in civil engineering. Ms. Salazar has experience working in rural water supply and sanitation in the U.S. and Ecuador. She is currently employed as a civil engineer specializing in wastewater treatment in California, including master planning and feasibility studies, financial analysis and planning, and design and construction management of wastewater treatment plants. She will shortly be taking an assignment with USAID/Washington to work in the Asia Bureau.

3. STUDY METHODOLOGY

During the first week of the assignment, the team attended a team planning meeting, adapting a step-by-step approach, developed by the Water and Sanitation for Health project (WASH), which allowed team members to understand and shape the final product. This approach identifies the following steps: (1) introduction; (2) history of the grant and current status; (3) chief clients for the report; (4) Scope of Work; (5) the end product of the review; (6) team member introduction and role development; and (7) development of a workplan. Given the complexity of the SOW, the team believes that this two-day process was an essential part of coming to grips with the task.

The evaluation took place from May 15 to June 28, 1998. The amount of time each team member was in-country varied depending on the subject area: the logistics, child survival, and water and sanitation engineer specialists were in-country for three weeks; the management and the maternal care specialists were in-country for four weeks; and the family planning specialist was in-country for five weeks. The team leader stayed for the entire length of the evaluation. The evaluation team reviewed hundreds of documents (see Appendix B for a bibliography). A midterm evaluation conducted by Kendall, et. al. in 1995 received considerable study, as did recent project status reports and a 1997 World Bank report titled "Honduras: Improving Access, Efficiency, and Quality of Care in the Health Sector." The team conducted many interviews: over 170 government and other officials, and an equal number of community members.

During the second week of the assignment, the entire team¹ took a week-long trip, and individual team members took additional trips as necessary. A total of 37 MOH service delivery centers—hospitals, maternal health clinics, *Centros de Salud Rurals* (CESAR), and *Centros de Salud con Medicos* (CESAMO)—were visited during the period. The team held individual and group interviews with MOH officials, health workers, users of health facilities, and members of local health committees. Spot checks were conducted of the facilities; medical and family histories were reviewed at random at selected health posts; and clinical records were reviewed at the hospitals.

The team made a conscious decision to travel together for one week, rather than to split up and perhaps cover a wider geographical area or a larger number of health centers. The team believed that it could make better use of its diverse background by traveling together, and that the "tubular vision" that sometimes characterizes a multidisciplinary project could thereby be lessened. In addition, throughout the assignment, team members met frequently to share opinions and observations on findings, interview results, first conclusions, and recommendations. The team recommends that future evaluators consider a similar strategy.

During the fourth week of the assignment, the team verbally briefed USAID, and gave formal

¹ Except for the water and sanitation engineer who, because of a previous commitment, was not in the country then, but traveled for a week when she returned.

written briefings to the minister of health and the director of USAID during the fifth week, as the report was being delivered. The sixth and seventh weeks were spent incorporating USAID's comments into the first draft. Final suggestions and comments from USAID and from the MOH were included in the second draft several weeks later.

4. ECONOMIC, POLITICAL, AND SOCIAL CONTEXT OF THE PROJECT

4.1 Recent Gains in Health

Family health has been steadily improving in Honduras over the last 25 years. Infant mortality has decreased from 86 deaths per 1,000 live births in 1976 to 42 deaths in 1993 (indirect method of estimation). Vaccination rates for children under one year of age exceed 90 percent, which gives Honduras the best record in Latin America for vaccinations, for a country of its socioeconomic status. The total fertility rate has decreased from 7.5 in 1975 to 4.9 in 1995. Contraceptive use has increased from 40.6 percent in 1987 to 50.0 percent in 1996. Finally, exclusive breastfeeding of infants of two to four months of age increased from 23.2 percent in 1991 to 29.5 percent in 1996.

Some of these health-related improvements have come about as a result of enlightened public health policy. A strong GOH commitment to poverty alleviation is demonstrated by the allocation of over 30 percent of its budget to social and economic investments in health, education, and social welfare. The incidence of poverty fell from 75 percent in 1991 to 67 percent in 1995. Educational levels are improving as over 70 percent of the children now graduate from sixth grade, compared with only 44 percent in 1986. Rural water and sanitation programs have helped shift diarrheal diseases from the first to the third cause of death among infants. Eighty-four percent of pregnant women receive prenatal care and, in 1996, 68 percent (up from 32 percent in 1987) received this care in MOH hospitals. Deliveries in health institutions increased from 40 percent in 1987 to 54 percent in 1996, with MOH hospitals showing the largest increase.

Nevertheless, there are numerous areas where substantial improvement has not yet taken place, particularly in rural areas. The total fertility rate in rural areas is virtually double the rate in urban ones, 6.1 and 3.1 children per woman, respectively. Contraceptive use is 40 percent in rural areas compared to 62 percent in urban areas: the rate of contraceptive use in rural areas has remained stagnant for over 10 years. The maternal mortality ratio is still alarmingly high at 221 deaths per 100,000 births. In rural areas, 32 percent of women give birth in medical facilities, compared to 91 percent of women in urban areas. More than half of infant mortality is now neonatal mortality, and many maternal deaths occur in the rural home.

In recognition of the growing disparity between urban and rural areas, in 1995 the MOH instituted a program called ACCESO, with the purpose of directing more Ministry attention to the needs of areas left behind (*postergado*). With donor support, ACCESO was to concentrate its efforts in reorganizing and rehabilitating the network of MOH service posts, spend time and energy on further training MOH rural staff, and develop local participation. Some delegation of authority and monetary resources were decentralized to Regional Health Departments and to their respective areas. One of the questions put to the evaluation team was whether ACCESO is proving to be an effective mechanism for bringing special focus to rural problems.

4.2 Structure of the MOH Service Delivery Model

Ministry of Health service delivery is structured around an approach to public health emphasizing prevention and community participation, which evolved in Honduras over 10 years ago. The first level of service is provided through health posts, or CESARs, which operate at low cost and are located close to the beneficiaries, primarily in rural areas. These health posts were planned to have enough facilities, equipment, and personnel to coordinate community efforts in health education and prevention; provide basic health care and referrals; and support country-wide interventions to control epidemic diseases. Each health post provides services to numerous adjacent communities, serving a population of approximately 3,000 people. Each post is staffed by an auxiliary nurse who provides basic consultation and care; administers a limited number of medicines and contraceptives; and coordinates public health interventions in the community with the support of local volunteers, committees, and authorities.

The next level of care takes place at health clinics, or CESAMOs, which are staffed by at least an auxiliary nurse and a physician. Thus, ambulatory care is provided in CESAMOs with the support of a larger list of medicines and equipment.

Health posts and clinics are grouped around area offices that are staffed with promotional, administrative, and medical personnel of higher experience and training. These people provide direction, coordination, and support to the health posts and clinics, and act as intermediaries to the rest of the MOH network in providing funding, supplies, training, information and supervision. Area offices have three positions that are key to the success of service delivery:

- (1) An area head, normally a physician, responsible for applying medical norms and promoting municipal participation;
- (2) A graduate nurse, experienced in public health, responsible for coordinating the nurses in the CESAMOs and supervising the public health interventions made by the CESARs in the area; and
- (3) An administrator, a position filled by a promoter or male auxiliary nurse with relevant experience, responsible for planning and administration of funds, facility maintenance, transportation, supplies, and other logistics.

Overseeing area offices are regional offices, staffed with a director and an organizational structure that mirrors the central office in terms of the division of program responsibilities. These offices act as a liaison between a group of area offices in a large geographic area and the MOH central office in some administrative and logistic matters, but not in medical and operational activities such as planning, budgeting, training, and supervision. These latter activities are channeled directly by the MOH central office to the areas.

The upper tier of service delivery includes area and regional hospitals. In the regions visited by the evaluation team, hospitals operate independently, with no coordination with the lower-level service providers. In urban areas, these hospitals compete with CESAMOs in providing ambulatory services, in addition to secondary and tertiary services.

This network connects with the MOH central structure through a dependency called the Directorate of Service Network (Redes de Servicios). All hospitals report to a different directorship called the Directorate of Hospitals.

4.3 Operations at the MOH Central Office

The organizational structure of the MOH central office does not contribute to a vision of integrated community health. Instead of a horizontal structure, the MOH is characterized by an administrative structure that allocates budget, staff, goals, and objectives along programming lines: distinct for programs such as diarrhea, vaccinations, and tuberculosis, with little or no interaction between one program and another. Until recently, the department responsible for field operations, the health post network, and the network of hospitals did not have adequate authority over operations. The recent creation of the Directorate of Service Network in addition to the Directorate of Hospitals represents a significant potential improvement because, with this structural change, each network will have a specialized coordinator.

Strategic planning processes do not take place. The managerial skills required by the MOH's complex operations do not seem much in evidence, in either the operational or the political structure of the MOH. The MOH does not appear to have initiated a rational plan to contain costs or improve efficiency, in part because leadership in the MOH is in the hands of technical people—physicians not managers—and cost containment is always in conflict with technical needs.

Confusion exists at many levels on operational goals and indicators. There seems little consensus on what ACCESO is, what its goals are, and how these goals can be met. The connection between ACCESO and the macro-indicators defined for its monitoring is unclear, and the Ministry is about to publish a "New Health Agenda" (*Nueva Agenda en Salud*) in which the role of ACCESO is similarly unclear.

The MOH's budgeting and financial management function is coordinated by the Planning Unit and supervised by the Administrative Bureau, while the approval and signing of checks are reserved for the minister and vice-minister levels. The process to prepare budgets, make purchases, and make payments is extremely long, with documentation returning to the same places more than once. Issuing a purchase order, for instance, requires no less than 53 separate steps. The people responsible for this function do not seem sufficiently qualified in financial management to properly perform the task, and their main responsibilities are of a different nature and lower level than the requirements for efficient financial management. This situation contributes to enormous delays in

field operations.

4.4 Field Operations

Graduate nurses, auxiliary nurses, and health promoters are frontline workers who deliver primary health care in the country; but the importance of their roles, reflected by low salaries, low status, and lack of recognition, is not yet appreciated or understood by policy and operational leaders.

Many frontline staff were found to be dedicated and motivated, but this motivation is generated more by the challenges they face than by the support they receive. The leadership that health posts and area offices receive from the central office is weak and inconsistent. Procedures to prepare operational plans; authorize activities, purchases, or payments; manage logistics and distribution; collect information; and prepare reports are excessive; require repetitive steps, signatures, and forms; and involve officers whose functions are distant from the field. This excessive administrative burden distracts frontline staff from their main concern: efficiency and effectiveness in providing quality care.

The leadership in the CESAMOs is unclear. The physician has the highest education in the team, but in most cases that physician is a young graduate performing a year of social service who has no experience in public health and often lacks interest in becoming a permanent team member (physicians in social service are assigned to health posts by means of a lottery). In contrast, the graduate nurse has seniority in the network, is experienced in public health, and is responsible for leadership and coordination of the paratechnicians, auxiliary nurses, and community volunteers in the CESAMO and adjacent CESARs. This situation hampers team-building in the CESAMOs.

There are a number of "imbalances" within the MOH network. Some CESARs serve a disproportionate share of the population (see Appendix E, Table 1), but operate with the same resources and staff as other CESARs. This imbalance makes it difficult to define standards for quality and efficiency and impedes training and supervision. In addition, some of the CESARs are underequipped or in bad condition.

Imbalances are also found within the area offices. The health posts and the populations they serve are not distributed evenly among the area offices; yet, the staffs of these area offices are of the same size and competence level. Region III, for instance, is considered by some central office staff as "problematic and noncooperative," but these central staff members do not recognize that Region III covers a larger population and geographic area than other regions (see Appendix E, Table 2). Similarly, the average population per CESAR in the Metropolitan Region is larger than that of CESARs in other regions, having 33 health posts for close to 800,000 people.

In the ACCESO framework, the work of the area nurse and the administrator are critical to the effective functioning of the health posts. These individuals are responsible for leading the health posts to accomplish the public health goals set for the communities, but neither they nor the MOH

leaders perceive the importance of their roles. Moreover, area (or regional) offices do not count on or perceive the importance of having circulating nurses, auxiliary nurses, and paratechnicians to maintain continuity in service. Most health posts reported significant periods of inactivity or delays in implementing their plans because of leaves of absence or staff emergencies.

Some formal and informal incentives awarded to personnel and communities induce behaviors that work against MOH goals. A community post that effectively applies prevention and sanitation measures to improve the health of its target population does not receive recognition or material rewards, while others that perform poorly are provided with more technical and financial resources. A similar effect is generated by incentives directed at communities: the *bono de maternidad* (a financial income transfer to poorer, larger families) rewards families for having more children, even if they are malnourished.

Supervision is taking place at some levels of the system, but the evaluation team did not think that such supervision was having much of an effect. Project reporting for the last two years refers to *supervision capacitante*, or coaching, but the team saw few signs that coaching was taking place. Community health workers and auxiliary nurses report that they rarely, if ever, are observed while providing care, and medical records are not checked. The term "supervision" is loosely applied to reviews of activity reports, as well as to monthly meetings. The sector nurse expects auxiliary nurses of the CESARs to come to her office for regular monthly meetings. Auxiliary nurses expect volunteers to do the same. Reports that "training" takes place during these meetings are common. In the same way, personnel of the area do not supervise the sector nurse. Visits to CESAMOs by area staff are related more to delivery of supplies than to supervision.

Nurses and auxiliary nurses at CESAMOs and CESARs are overburdened with the combination of curative and administrative work. Immunization cards and growth charts for caretakers are not properly filled out. Results from growth monitoring activities are not explained to caretakers. Weight is not always recorded, and caretakers believe that the child should be weighed only when immunization is provided. Over 40 forms must be completed each month, and filling out the forms takes one hour per day at the health facility. Information from the forms is then routed through clerical employees at the area and regional offices, where it is neither systematically consolidated nor analyzed. For the most part, the data are forgotten the moment they are prepared. In addition, when the auxiliary nurse has to leave the facility to attend the monthly meeting or do some administrative work in the area, the facility closes. The average number of working days per month for an auxiliary nurse in a CESAR is 15 days. Thus, the *Unidad Prestador de Servicio* (Health Service Provider [UPS]) does not provide health services for seven working days per month.

Many of the communities visited do not rely on CESAMOs and CESARs because of their service limitations and inconsistencies. The communities spend scarce resources on private clinics, medicines, and supplies, or place increased demands on MOH hospitals.

4.5 Potential Sustainability

The MOH does not have a strong legal mandate to implement long-term policies that could facilitate or enhance sustainability. Both the law that regulates the medical profession and the pressure from the health employees' unions represent large hurdles to the ministry's ability to improve service quality and personnel efficiency and to promote the development of MOH human resources based on productivity.

Frontline work in public health is handled mostly by nurses and auxiliary nurses, but most of these people are underpaid. And, with little or no opportunity for advancement or training, these nurses are stagnating in their careers. The role of area administrators under ACCESO is similarly underestimated, because that position has not yet been incorporated officially into the MOH personnel structure. As yet, no effective program is in place to address weaknesses in the development of human resources to support long-term sustainability.

The concept of departmentalization circulating in the MOH includes establishing Departmental Coordination Offices, which would assume greater responsibilities than the current area offices, but less responsibility than regional offices. Region II already has begun regrouping its health posts in La Paz under a single area, without consideration of the short- and long-term impact these changes could cause on service provision.

In areas visited by the team, the municipalities are beginning to become involved in MOH activities, although it should be admitted that the ACCESO initiative is only two years old. Some important gains are being made: many municipalities participated in the situational analyses study; some are involved in setting annual health goals and, from time to time, in supervising health activities; in some places, local health committees have been formed and are beginning to function; and in some places, municipalities are involved in co-financing maternal-infant birthing clinics. However, these gains are more the result of initiatives from regional heads or individual mayors than of system-wide improvements.

4.6 Institutional and Multilateral Support

It is unclear if the core of the current health service network—region-area-post—will remain intact in the departmentalization process, or if this network will be changed under the new administration. Documentation on the new MOH administration and future health sector policy is still in draft form and not yet widely available. However, a draft document was shared with the evaluation team. It proposed major changes to the MOH service network: greater decentralized participation in planning and administration of health services by the local municipalities, expansion of area offices, and transformation of several CESAMOs into area hospitals. The

concept of ACCESO is not discussed in the draft, but the interest in making health services accessible to all target communities remains valid.

The World Bank and the Inter-American Development Bank (IDB) are proposing a major restructuring of the MOH. Both institutions are developing plans to provide long-term technical and financial support to the central government and MOH for this purpose. In 1997, the World Bank conducted an in-depth assessment of the entire health sector, and its recommendations for macro-actions are consistent with the team's findings. In addition, as this evaluation was being carried out, the IDB signed a \$36 million loan with the MOH to address ministry restructuring, improve and re-equip health facilities, and conduct sector studies.

5. MINISTRY OF HEALTH MANAGEMENT SYSTEMS

5.1 Findings

5.1.1 Overview

ACCESO is a MOH initiative funded by multiple sources that aspires to (1) sustain and expand MOH services to target communities identified as lagging behind (*postergadas*) in terms of unmet health needs; (2) support communities and municipalities to participate more in the process of health service delivery; and (3) strengthen and sustain the operational activities of MOH service delivery in the communities. Since the signing of Amendment 22, USAID funds have been channeled directly to nine health areas incorporated into ACCESO. USAID financing also supports several of the MOH's nationwide activities.

5.1.2 Questions and Responses

- **Evaluate what has been accomplished to date in achieving PROAG Amendment results indicators in terms of supervision, health information systems, and management information systems. Should the project continue with the activities? Why or why not? How should the project proceed?**

At the Political and Macro Level

The project should continue. At the conceptual level, the benefits that the health sector derives from USAID/Honduras support to the MOH justifies a continuation of the project. The evaluation team's public health specialists believe that the service delivery network is appropriate, but the MOH has been giving more attention to expansion than to organization and human resource development. Furthermore, the current MOH model was designed to provide curative services based on a doctor-driven, medical model. However, a decade of only-slow improvements in rural health suggests that the MOH will need to give more importance to community participation and preventive public health, precisely the model HS-II project resources are directed to support. The MOH does not have managerial, technical, and financial resources to continue this effort without external support.

Another major bilateral donor to the ACCESO program is the Swedish International Development Agency (SIDA), which is concentrating on mechanisms to promote participation in different parts of the country from those receiving USAID assistance. SIDA's particular focus is on rural participation, while USAID assistance has tended to emphasize administrative issues and staff training, which are also critical to achieve advances in municipal participation. Both foci are

important to MOH sustainability, and the MOH can "cross-fertilize" lessons learned from each geographic area supported by various ACCESO donors.

It is likely that the learning curve of the USAID and the SIDA projects has been an important element in the evolution of multilateral financing. Currently, the World Bank is negotiating a loan with the central government to modernize the governmental apparatus and the Ministry of Health, and, as noted, a similar grant was signed regarding the Inter-American Development Bank's financing of the MOH as this evaluation was coming to a close. One of the purposes of the IDB financing is to extend ACCESO to the remainder of the country.

With the arrival of a new government and the minister of health's push to publish a "New Health Agenda," the timing is right to provide a major, but strategically concentrated, energizing of the health sector. The new MOH administration shows openness to change, and the modernization of public administration is one of its principal themes.

At the MOH Central Office Level

The project should proceed. At the level of the MOH's central office, project funds support activities related to Supervision/Monitoring/Evaluation; *Sistema de Información Gerencial, Administrativa y Financiera* ([SIGAF] a financial and administrative management information system [MIS]); health information; and human resources development.

A new Supervision/Monitoring/Evaluation instrument has been developed over the last year in several of the regions. It is actually as much a new protocol for supervision as it is an evaluation format. Developed with much field staff input, the form is a significant breakthrough in terms of field staff knowing what is expected of them, and of having the expectations of their supervisors standardized. Moreover, implementation of this form makes it an explicit obligation of the supervisor who has identified technical weaknesses in the subordinate, to train the subordinate in how to improve. Thus, the instrument is not only a monitoring and managerial tool, but also a staff development tool. The form has some weaknesses, its length and complexity, for instance. Also, because it has only been implemented in the last few months, the effectiveness of the new format is not yet known. Nevertheless, the long gestation process and the considerable field staff input that went into the document give indication that it will result in considerably more staff development than anything that has existed before.

Regarding SIGAF, the project supports several information system professionals who are responsible for creating a new MOH information system. With technical assistance from a Cooperating Agency consultant who visits the country four to six times a year, the SIGAF staff have produced a Master Plan for an integrated information system that is about ready for

presentation to senior MOH officials. The MIS is designed to operate in a fully integrated manner with the rest of the MOH internal structure, not as an isolated system. As a result, the plan includes some 180 relational databases that will interrelate the information needs identified by MOH central staff with effective management and monitoring of field operations.

As noted, information management is one of the serious weaknesses found in the MOH at all levels. The Master Plan is well conceived and would be beneficial for the MOH, but the Ministry does not have the technical, financial, or physical capacity to implement the program without continued project support. Sophisticated hardware, software, and data management will be required to operate the system. Furthermore, once installed, it is unlikely that the MOH will be able to supply data of the quantity and quality necessary to make the system work, unless it improves integration between the operational, financial, and information functions. Therefore, continued project support will be needed to address these issues.

SIGAF is also working on the issue of MOH managerial efficiency and has prepared some wonderful work on system reengineering. Several of the structural constraints identified in the political context section of this report are addressed in this groundbreaking document.

No advances in the health information system were reported by the head of SIGAF. As noted, statistics are collected, processed, and distributed only to produce reports, not to be used as managerial tools. Despite time-consuming tasks needed to collect and process data at the health posts, and the routing of data through clerical and statistical employees at the area and regional offices, the information is neither systematically consolidated nor analyzed, because analytical capacity has not yet been developed at those levels.

Beyond the Supervision/Monitoring/Evaluation instrument noted, little or no project impact on human resource development was seen by the evaluation team. Project support for this sector has been very modest, however. The Directorate of Human Resources reports that it has been active for over four years in developing decentralized strategies for auxiliary nurse training of ethnic groups, training of various public health technicians, work with the master's degree program of the National Autonomous University of Honduras, and the production of various educational materials. The team did not see much evidence of such activity in the UPSs visited. The Directorate also reports a lack of strategic planning in the MOH regarding human resource development either globally or at the local level, requiring that the Directorate redefine its role at the central level.

At the Field Level

At the operational level, the project supports selected ongoing field activities. A typical project budget for an area office includes funds for planning, training, and supervision activities; in-country travel; materials; fuel; equipment maintenance; facility repairs; and similar items. Each area is given a rotating fund of L 120,000 (about U.S. \$9,000) for such costs, two-thirds from

U.S. sources and one-third from GOH resources. When receipts are submitted, the fund is replenished. Without this support, public health activities at the area level would be severely restricted.

Some much-needed work has recently begun on quality assurance at the field level. A Cooperating Agency (CA) with experience in Honduras has recently assumed the additional responsibility of working with two health areas, Comayagua and Puerto Cortez, to create regional quality assurance (QA) teams. This work has been going on for three months, thus it is too early to comment on its effectiveness. However, it is clearly an important and much-needed initiative.

The MOH has been investing significant project funds in training, mostly at the local and area level. However, the evaluation team judges that this training has not had as much impact as one would hope. Most training events are not monitored or followed up on, with the exception of training conducted by technical assistance groups such as the Basic Support for Institutionalizing Child Survival project (BASICS), MotherCare, and the Population Council. Training that is not evaluated cannot be objectively measured or its impact estimated.

A significant portion of USAID resources for local costs—37 percent in 1998—is used for MOH staff per diem (*viáticos*), partly in support of the in-country training events described, and partly in support of other field activities, such as supervision of staff, attendance at meetings, travel costs associated with vaccination campaigns, and auxiliary nurses' travel to distant villages as part of the outreach program. At the level of the auxiliary and professional nurses, it is most likely that the investment is 100 percent effective. As noted elsewhere, frequently dedicated and hard-working staff are not adequately valued by the system. Thus, monetary support to get these people out to the communities is clearly money well spent.

However, how effectively the money is spent in higher levels is less clear. As defined by GOH government-wide regulations, area directors (and all other supervisory staff) receive per diem every time they travel. Although one of HS-II's goals is to provide for just such supervision, it may seem excessive that a supervisor whose role is to travel to supervise the area should be remunerated (up to) every workday of the month, which the current system allows, without controlling for the quality of the visit. Tegucigalpa staff who travel to the regions and areas to participate in training events or to facilitate them, also receive per diem for their travel in a similar manner. When the travel or the training produces meaningful results, the money is being spent well. However, when the travel or the visit is not vigorously implemented or tightly focused, it is likely that the money is not being used as it should be. Existing project mechanisms do not distinguish between these two kinds of travel. Indeed, during the evaluators' field trip, this subject was mentioned by field staff with some frequency; field staff have an expression for this second kind of travel, *andando viaticando*. It is important to note that financial propriety is not at issue, as appropriate control ledgers have existed for the life of this activity; but, the ledgers are structured by geographic area rather than by person. To its credit, the Project Coordination Unit recently created individual registers to begin identifying

who is traveling, where the person is going, and how frequently the travel is taking place. Such monitoring is needed, but assessment of the quality of the travel is not yet contemplated.

For the last several years, the transfer of funds to support health area annual budgets has been consistently three to six months (or more) late, for a variety of reasons. In one case, the delay was due to the change of government; in two other cases, it was due to slow bureaucratic processes. The negative impact of such delays on field operations has been seriously underestimated. Some area offices try to implement a year's plans in five or six months, while others implement activities without a budget, "loaning" travel costs out-of-pocket, to be reimbursed when funds are finally released. Both strategies hamper proper decision making throughout the year and lead to mismanagement, inefficiencies, and perhaps even personal hardship.

The Project Coordination Unit is staffed with MOH-appointed personnel, and their administrative procedures are similar to those in the MOH. As noted, that unit's work shows some recent "value-added" to the administration of the project; however, as a GOH entity, the unit has not been able to effectively deal with the issue of five- and six-month delays in financing. Unit staff are themselves frustrated and deem the situation "almost unsalvageable." USAID has been considering options for some time, and is currently exploring the possibility of closing this unit, and hiring a private, independent financial contractor outside of the MOH to do the job. The scope of work for this contractor would include setting up a financial control system suitable to the project and USAID norms. This contractor would also be responsible for asset procurement, management, supervision, and for coordination of budgeting activities with the area offices and other MOH-supported units.

2. Has or will the project support toward the administrative reform produce meaningful results?

Project support for administrative reform has contributed to (1) identification of information needs, initial design of an integrated information system, and analysis to streamline critical administrative processes; (2) support of selected central office staff and sector interventions; and (3) financing of the expansion of health services in rural communities. This support has produced meaningful results in certain programmatic interventions such as child immunization, but fewer results in terms of sustainability, efficiency, and quality of services.

Strategic planning should also receive project support. A process should begin whereby MOH field and central office staff participate in a comprehensive exercise to analyze every aspect, component, resource, and process in the structure and function of MOH health service delivery. The output of such an exercise would be instrumental in defining a more efficient organizational structure and workload distribution, as well as in developing awareness among MOH senior officers of the need to change the central MOH structure and procedures. The results of such a strategic planning exercise should be used to prepare a master plan for the reorganization of the MOH, including identification of objectives, resources, and technical assistance needs, as well as more effective indicators to evaluate performance at all levels of the MOH: the health centers,

areas, regional offices, and central office.

Until a recent project-financed initiative was implemented, the MOH had not developed mechanisms to adequately supervise and evaluate the performance of its operational personnel. The central office's approach to supervision called "training-supervision" resembles on-the-job training (OJT) more than supervision. However, OJT requires qualified trainers, not just staff with medical knowledge and experience, as is the case with the MOH staff who are currently conducting the training. The *Gerencia de Asistencia Técnica* (Technical Assistance Team [GAT]), assembled by the MOH to be the think tank in support of the conceptualization of ACCESO, recently produced a framework for monitoring and evaluation of the health post staff. Region III has prepared a supervision manual following GAT's orientation, developed in a year-long process with much staff input. As noted, both these instruments have only recently been applied.

3. To what extent has the administrative reorganization increased delegation of authority to the regional operations? Are the regional directors sufficiently trained to manage their operations?

Regional operations function with a restricted level of authority, although more work has been transferred to them as a result of the increased attention and direct USAID funding going to area offices. Regional offices are now required to provide more logistic and administrative support to area offices and community health posts, but technical direction still comes from the central office. It is unclear if the regions receive enough resources to enable them to implement the operations they are expected to conduct, but there is little doubt that their administrative and technical staff is better qualified than their counterparts at the next level down, the area offices.

The regional directors are experienced physicians, not managers; however, they count on their administrative assistants to manage operations. The directors used to play the role of leader in public health in the region, but with donor support going directly to area operations, this role has diminished. Furthermore, the hospitals in the region do not report to the regional directors, and the relationship between them is informal and based more on personality and seniority than on institutional criteria.

There is a lot of talk about who is really responsible for what. The central office reports that the regions have discretion over 20 percent of the budget for purchases. However, this delegation of authority actually means that the regions can request quotes from local providers and receive the products, but the authorization to place the orders and make the payments still takes place in the MOH central office. In addition, the regions do not have any flexibility to manage or adjust their operational plans to respond to emergent needs. The quality of the administrative and logistical support the regions provide to the areas differs from region to region, because the work is not distributed evenly, and because the composition of the regional staff and their organization are not standardized. At the lower levels of the system, the area offices and health posts reported many

deficiencies in the support received from the regional offices, but the administrative staff in the regions argued that such insufficient support is the result of scarce resources and limited regional authority.

4. If decentralization has occurred, is the size of the central administration justified? What changes need to be made?

Because of the breadth of this evaluation and the time limitation, the team could not collect or analyze enough information to fully answer this question. However, the team did perceive some indications of excessive personnel, particularly clerical and technical. The total staff in the central office is approximately 600 employees; that number seems high considering the staff and structure at the area and regional offices, which have supposedly been established to take responsibility for a considerable portion of the technical and administrative burden.

An organization that lacks consistency in its vision—integrated delivery of services—and has a program-based structure in the central office, frequently exhibits much heavier staffing than an organization with consistency between its field and central office structure. The MOH habitually adds staff and paperwork to solve problems caused by inefficiencies in procedures or personnel, without eliminating the original cause of the problem. One of the contributing factors to this situation is that operational managers in the MOH do not have the flexibility to remove inefficient, ineffective, or low-motivated personnel.

Any reorganization plan should include means to overcome this lack of flexibility. An effective way to approach such restructuring is to assign to the operational managers (health network and hospital heads in the central office, regional directors, area managers, administrators, nurses, and hospital administrators) full responsibility for the execution of service delivery, and authority over the facilities, equipment, staff, and financial resources assigned to their operations. The new organization should have clear mechanisms to evaluate managerial performance and to reassign under-performers to nonmanagerial functions.

5. Has the MOH accomplished the assessment of costs and savings?

No. There are numerous examples of measures the MOH has taken that are not rational in terms of efficiency or productivity. When an employee resigns or is terminated, the position is not filled, although the position may be critical. When a frontline provider like the CESAR auxiliary nurse is on vacation or has an emergency, the health post closes and the services stop until that person returns. The medicine budgets that the area offices prepare in coordination with the health posts are adjusted downward at the central office based on determinations made by administrative staff, without any consultation with the field.

As long as the managerial skills of the administrators of the health network and hospitals do not improve, and their leadership style does not become more entrepreneurial, the possibility of useful

and sustainable cost containment and cost recovery will be difficult in the MOH.²

6. What additional steps can the MOH take to further reduce these operating costs?

Cost containment can be tackled in many ways, taking large, "top-down" steps or little, "bottom-up" ones. Top-down steps could mean restructuring the entire technical and administrative organization in line with the model of integrated services, and assigning authority for management of operational resources and staff to the Directorate of the Health Network and the Directorate of Hospitals, which in turn would assign regional and area responsibilities to the regional and area managers. The performance of all parties could be measured in terms of health results, cost recovery, and cost containment.

Bottom-up steps could mean introducing at the health post a manual with instructions to analyze medical and financial information with regard to health post goals, or establishing a contest among employees to reward monetarily those who can identify ways to reduce costs and/or increase productivity.

In both cases, an entrepreneurial spirit is needed. This spirit could be fostered by giving relevance to the management function at the directorate, regional, and area levels. The MOH should have a more balanced distribution of senior responsibilities between management professionals and public health doctors. The position of administrator at these levels must be enhanced with improvements such as higher salaries, more authority, higher educational requirements, and enhanced responsibilities. An administrator would coordinate the integration of medical, operational, and financial plans, and should have the authority to make operational decisions regarding the implementation of these plans.

Medical, technical, and clerical staff at the central and regional offices are a particular resource that, with better management, could have a great impact on cost reduction. Physicians and nurses in the central office frequently travel to the regional and area offices to assist their counterparts in what they are supposedly trained to do without much additional support. Many activities performed at the regional and central office repeat activities already performed at the area and health post level. Region II, for instance, has one support bookkeeper for each of the five area administrators in the region. If area administrators were better trained, one junior accountant working under the supervision of the regional administrator could do the job. If every employee in each level in the health network were to assume responsibility for one network's section and some administrative processes were streamlined, redundant employees would be eliminated, efficiency

² Late in the evaluation—in the final editing stage—it was brought to the evaluators' attention that the team had missed the importance of this question, involving as it does several "conditions precedent" in Amendment 22 regarding detailed cost-cutting activities to be implemented by the MOH. Throughout the evaluation, the issue did not come up in discussions between evaluation team members and MOH staff, indicating that perhaps the subject still requires study. Because the team no longer had time to answer the question in this document, the team recommends that USAID and the MOH resolve the question when the final version of this document is received.

would improve, and costs would be reduced significantly.

In addition to the need for entrepreneurial spirit, a different kind of activism and participation of the health workers' unions is also required. A combination of the eagerness of the union leaders and the political weaknesses of the MOH leaders has created a work environment full of legal mandates, rules, and agreements that promotes a lack of loyalty and commitment to efficiency in meeting health sector goals. Unless this environment changes so that the protection of the employees comes as a result of the protection of the institution and the clients' health in the communities, the provision of health services will continue demanding a large amount of unproductive resources.

5.2 Conclusions

The MOH needs to reorganize its structure, roles, facilities, and financial and technical resources, while developing the operational and management skills of its staff. Attention has to be given to improving the strategic vision of its planning staff and the management skills of its field-level staff. A more entrepreneurial, quality-oriented culture needs to be introduced in MOH staff, and improvements in service, human resource development, and cost-effectiveness need to be included among its goals.

Substantial improvement in MOH efficiency and effectiveness can be accomplished as follows:

- (1) Reorganizing the MOH to foster more integration among operational structure, program activities, staff, and resources, to facilitate overall improvement in operations and financial efficiency.
- (2) Differentiating roles and functions in a more meaningful way at the service-delivery level. Likewise, the workloads of the CESAR's and CESAMO's need to be better balanced. Such definitions need to include size of target population, staff composition, resources, equipment, and services to be provided. Integrating the area hospital into the network by including hospital planning as part of regional responsibilities is also desirable.
- (3) Developing stronger operational and managerial leadership is required in the network and hospitals. Changing the current focus of the information system is also required, from filling out forms to comply with bureaucratic procedures, to focusing on the provision of data to facilitate decision making.
- (4) Establishing a new financial management function in the central office with status and resources to work independently from operations to improve budgeting, cash management, and financial control.

- (5) Seeking an enhanced legal mandate to allow the MOH, which is currently severely constrained by law, to adequately discipline low performers and reward high performers.
- (6) Moving toward departmentalization in carefully planned steps to ensure that physical access and communication between area offices and communities is not compromised. Instituting periodic fora with regional and area heads and municipal authorities would help to exchange experiences on municipal promotion, learn from success stories, and develop strategies.
- (7) Accelerating the ACCESO process of delegating more authority to health regions, areas, and hospitals for planning, supervision, and resource management to create incentives to improve performance. Allowing these units to retain and manage the funds generated locally, while supervising correct fund management with periodic and responsible audits, would foster initiative. Identifying success stories in the relationship between the health post and the community and in the delivery of services could allow those positive experiences wider exposure throughout the MOH.
- (8) Developing an energetic educational program to foster staff growth at the nurse and auxiliary nurse level and creating an incentive program for them, including salary increases for above-average performance. Gradually weeding out the low performers, as well as those who have many years of service and are generally worn out, may also be appropriate in some cases.
- (9) Continuing to work to improve supervision of staff performance and quality assurance to improve service delivery and gains in rural public health.
- (10) Exercising flexibility and creativity to promote and establish a mix of public, private, and municipal funding, while introducing internally rational and systematic actions for cost containment and cost recovery.

In general terms, the project is being adequately run from the project side. However, two areas need improvements:

- (1) A change must be made in the administrative mechanism of the Project Coordination Unit wherein project resources currently get transferred to the local levels with less than half a year to implement activities. Project activities can no longer tolerate such delays.
- (2) Administrative mechanisms need to be strengthened to enhance the quality and impact of supervisory visits and the appropriate use of the per diem line item, a third of the budget. Project training should be strengthened at the same time, with

special attention given to follow-up.

5.3 Recommendations

USAID should continue to finance selected MOH costs in the project area and provide technical assistance for sector-wide reorganization and strengthening. Technical assistance should be directed to improving the MOH's strategic vision, role differentiation, managerial skills, nurturing of field staff, and financial sustainability.

Strategic Vision

- The project should finance sector-wide and ministry-wide strategic planning exercises. Because the MOH's *Plan Maestro, 1996-2010*, was apparently designed centrally and with little field input, it should serve as the basis for the strategic planning exercise, but the plan should be made more real for all levels of the MOH.

Role Differentiation

- The team endorses USAID's pilot study of the referral system currently underway. To strengthen the *Nueva Agenda en Salud*'s reorganization of service levels based on complexity of attention, the project should support MOH efforts to reform and reorganize the referral system in whatever other ways possible. The aim should be to deliver services at the lowest possible level.
- The project should continue recent initiatives to provide technical assistance to regional hospitals in this regard.

Management Skills

- The establishment of a senior financial management function in the MOH, to be staffed with a professional manager, should be seriously studied.
- The project should continue to support MOH efforts to improve staff managerial skills and supervision. Such improvement will in part come out of the strategic planning exercises; will involve work on the recently developed instruments of *supervision capacitante*; will relate to decentralization and delegated authority proposed in the minister's *Nueva Agenda en Salud*; will require negotiation with the health workers' unions to instill more quality standards in employee performance; and should involve management training for all levels of MOH staff.
- The Project Coordination Unit should be dissolved. An independent financial contractor should be hired and made responsible for activity plans and budgets, as well as for quarterly administrative audits on the implementation of planned

activities. Such a unit should continue recent efforts to bring more oversight to the use of per diem and to create a system that will better foster the idea that this financing is contributing to project goals, not simply serving as salary support.

- Technical and managerial coordination of project activities is critical in order for USAID funds to achieve their purpose. USAID should make funds available to contract in the MOH an officer to provide project-related programming functions.
- Continued support should be provided to the Supervision/Monitoring/Evaluation mechanism and to SIGAF, which are starting to achieve important results. Continued support of the human resources effort should be carefully scrutinized to determine whether adequate output is being achieved.
- ACCESO's processes should continue to receive support. The project should make a concerted effort to channel funds more efficiently and more quickly to areas, CESAMOs, and CESARs. Moreover, mechanisms should be developed to allow the project to financially support innovative, high-quality, local initiatives, whatever they may be. The project should also help the MOH to become more proactive at seeking meaningful financial (and other) participation from the municipalities.

Staff Nurturing

- The evaluation team endorses the project's recently initiated activities addressed to total quality care. The project should support activities around the creation of a "culture" of quality service throughout the MOH, and especially in CESARs and CESAMOs. (See subsequent chapters for content areas of such activities.)
- In recognition of their key contribution as frontline providers, the cadre of auxiliary nurses and professional nurses should receive further training. This training should be conducted in an accelerated campaign such that all nurses and auxiliary nurses in the project area have upgraded their technical skills within a given period of time—perhaps two years—with significant on-the-job follow-up.
- The MOH should conduct a careful study of the possibility of using retirement bonuses to "buy out" senior MOH field staff. This strategy was used effectively in El Salvador, and it is possible for the MOH to think in such terms also. New, energetic, and highly trained staff can be recruited in their place. USAID should be approached to see whether it can contribute to the process.

Financial Sustainability

- Related to the issue of referrals, the project should support an initiative of meaningful cost recovery, particularly at the CESAR and CESAMO levels. To foster rational use of MOH resources, charges should be lowest at the lowest level of service, and should increase as the level of service increases.
- USAID should continue the process of engaging in sustained coordination and information sharing with bilateral and multilateral entities, since considerable congruence exists between these recommendations, the World Bank project, and the project recently signed with the Inter-American Development Bank.

Midterm Planning

- The Mission could consider elaborating a master plan for technical assistance consistent with MOH restructuring plans. This plan should include the following elements:
- Strategic planning, organizational, and management development
- Quality assurance
- Management information systems
- Training, planning, and administration
- Cost recovery
- Medical statistics, design, and analysis
- Medical cost accounting
- One of the important foci of the minister's *Nueva Agenda en Salud* is *Garantía y Mejoramiento de Calidad*, or quality assurance. To move his agenda along, the minister has just created a new officer, chief of Quality Assurance. Complete congruence exists between this initiative and the Total Quality Care activities already underway, supervised by occasional visits from a technical assistance Cooperating Agency. USAID should give serious consideration to allowing some institutional contractor working in Total Quality Care to establish a full-time presence in Honduras to push the minister's initiative aggressively.

6. CHILD SURVIVAL

The Ministry of Health is undergoing changes at the central level in response to the new government's agenda. As part of this reorganization, the Maternal and Child Health Division is integrating its programs to deliver care with a focus on the child rather than on diseases. A community-based strategy of integrated care, *Atención Integral del Niño* (AIN), began in 1996, and training has taken place in some areas of the country. An institutional component to treat prevalent childhood diseases, *Atención Integral de las Enfermedades Prevalentes de la Niñez*, or AIEPI, has been developed during the past year under the leadership of the World Health Organization, and comprehensive guidelines to manage AIEPI have been tested recently.

BASICS has done good work in child survival over the last several years. Although MOH central office staff are now fully conversant with the concepts of AIEPI, local health post implementation of AIEPI has been somewhat slow, in part because of confusion over the overlap between the different emphasis of AIEPI compared to AIN, the need to develop new materials for AIEPI, as well as decision makers not wanting to confuse field staff with the different thrusts of ACCESO and AIN/AIEPI at the same time. The first field activities in AIEPI were taking place at the same time that the evaluation team was in Honduras. Meanwhile, ongoing child care still shows vertical characteristics in terms of management, programming, reporting, and logistics. Notwithstanding the HS-II project's push to decentralize and the implicit integrating effect of the service provider being one person, a legacy of vertical programming remains. Each program prepares its own plan and receives its own budget. Although reporting is somewhat more simplified than it used to be, much data are still collected, of which little is used at the local level.

6.1 Findings

6.1.1 Diarrhea

In the period from 1991 to 1996, diarrhea-associated mortality decreased to second place as a cause of death for all children under 5 years of age. However, diarrhea is still the first cause of mortality for children between 1 and 11 months of age, and between 1 to 5 years of age (the National Epidemiology and Family Health Survey [ENESF-96]), Tables 10.10 and 11). Children between 6 and 11 months of age have the highest diarrhea prevalence. It is likely that numerous diarrhea-caused deaths occur in this group.

1. The use of oral rehydration salts has not increased over the last 10 years? Why?

It is important to recognize the long-term work the MOH has accomplished through its Diarrheal Disease Control Program (PROCED) in developing adequate standards for diarrhea prevention and case management. A manual containing norms and guidelines for diagnosis and treatment of

diarrheal diseases has been produced at the central level.³ The guidelines are consistent with international standards, that is, oral rehydration therapy has become the frontline strategy for preventing dehydration. This strategy includes the use of home fluids (in the case of Honduras, *horchata*, *atol*, and soups) and increased breastfeeding as soon as diarrhea starts. Oral rehydration salts (ORS) are usually recommended in international standards when there is some dehydration, and are mainly used at health facilities or when oral rehydration community centers provide service. Unfortunately, none of the UPSs visited during the evaluation had this manual on hand. The few posters exhibited in the health facilities were mainly related to the management of dehydration. Similarly, no educational materials for community members were evident.

PROCED's main achievement is the widespread awareness of the benefits of oral rehydration salts to prevent deaths from dehydration. ORS packets (Litrosol) are reported to be delivered to every patient with diarrhea seeking help from community volunteers and from health workers at the UPSs. The use of ORS in the country has been steady at about 30 percent of diarrheal cases over the past six years (ENESF-96). Diarrheal episodes may be less likely to result in dehydration because of the use of home fluids. There is little reason to assume that this percentage needs to be increased if episodes are being managed early at home. The previous midterm evaluation reported an increase in the use of ORS in 1994, but this increase could have been related to the cholera outbreak at the time. In this light, it may be appropriate to review the epidemiological criteria to justify the goal of 40 percent of ORS use as stated in the project amendment, particularly in non-cholera periods.

Fortunately, groups with higher diarrhea prevalence, the rural population and groups with low socioeconomic status, are the groups using ORS in a larger proportion. Another reason to think that severity of diarrhea may be decreasing is that diarrhea prevalence in children under six months of age has also decreased (ENESF-96). This decrease may be the result of the improvements in water availability and sanitation, and of the extensive breastfeeding promotion, which, in fact, protects children in this age group (though exclusive breastfeeding has not increased for this group in the period.)

Community volunteers, although active in the past, seem to be less oriented to promotion and community education than to ORS distribution. Community outreach, surveillance of cases, and actual administration of the salts do not seem to take place. Supervision of the work of the volunteers is rare. Information about their activities is mainly numerical and is obtained through self-reports in monthly meetings with the auxiliary nurse of the UPS.

Although the central level strongly emphasizes oral rehydration therapy (ORT) as the frontline strategy for diarrhea management, recommendations about early use of home fluids and continual feeding are not provided by either community volunteers or health personnel. Nutritional advice mainly focuses on breastfeeding. Health personnel take for granted that caretakers will continue

³ "Manual de Normas y Procedimientos para las Acciones de Control y Manejo de las Enfermedades Diarreicas Agudas y Parasitarias," MSP, 1991.

providing usual foods to their children. In general, health workers including physicians, consider that low-calorie food preparations (*dieta blanda* and soups) are appropriate to feed a child during diarrhea.

2. What project assistance if any, could be provided in this area?

Drawing on BASICS' work, project assistance can be better oriented to support the new strategy of integrated management of the child, AIEPI. Emphasis on nutrition during healthy periods and particularly during and after diarrhea is needed. The nutritional management of diarrhea has been well studied and adequate food recipes for children have already been included in the manual produced by PROCED in 1991. However, little effort seems to have been made to make these recipes available to health workers. Such effort would produce good results. However, integrated management entails so much information that it is easy to give too much emphasis to the curative aspect as opposed to preventive and support measures. This explains why the information about adequate nutrition is not fully detailed in the new manual. A separate booklet has been prepared to introduce nutritional management of the child during disease and healthy periods. However, this may increase the curative emphasis even more, because it will take more training time to cover the contents of both manuals. Given the tendency to favor the medical model in training activities, it may not be surprising that the nutritional component is neglected, particularly given the constraints on time and resources. Trainers should be selected carefully to maintain a balance between these two approaches.

The opportunity to implement the integrated approach of the sick child may also be an excellent opportunity to focus attention on another delicate area: the inappropriate use of antibiotics and other drugs by health personnel. The overuse of antibiotics and antiparasitic drugs is common. Health personnel, including physicians, do not ask caretakers about the presence of blood in the stools of children with diarrhea. If blood is present, which indicates that the diarrhea is bacterial in origin, the use of antibiotics is appropriate.

Fever seems to be considered the most important sign to prescribe antibiotics. Laboratory tests are requested unnecessarily and antiparasitic drugs are prescribed despite negative results. Furthermore, both antiparasitic drugs and antibiotics tend to be prescribed together. With the AIN/AIEPI focus, it would be expected that through increasing knowledge and confidence in their ability to manage a sick child, health personnel, particularly doctors, would tend to rely less on unnecessary prescriptions.

Training in integrated management should be directed to UPS personnel more vigorously than usual in the MOH. Such a change would require an allocation of funds to provide many training events in a short time at the UPS level with concurrent training of mid-level professionals. HS-II's system of per diem for training is an attraction for MOH officers at the central level (as suggested elsewhere), resulting in too much emphasis on activities that are carried out for small numbers of staff, or supervised by a limited number of MOH personnel traveling to the field. This results in delayed training for many health care providers.

The project should build on the qualitative study being conducted in Region II (Melara, et.al) that is looking at the referral system, which is frequently overused. When a patient gets to a CESAMO with acute diarrhea, medical personnel are not prepared (in terms of training and resources) to provide the care needed. Reports indicate that although there are clear guidelines to rehydrate children who do not tolerate ORS because of vomiting and distension, alternative measures are rarely applied in the CESARs or CESAMOs. Such alternative methods are particularly important when a quick referral is not possible. As a result, children who could benefit from rehydration prior to referral, arrive at hospitals in worse condition than necessary, making their recovery slower and more difficult.

Hospital wards and emergency units could benefit from project support because many do not follow the national norms for diarrhea case management. Intravenous solutions and parenteral antibiotics are used for longer periods than necessary. Little effort is made to go back to oral administration of fluids and food in a few hours. Poor hygiene in some of the hospitals visited by the team or an over-long stay in the hospital are likely to foster further complications, malnutrition, and new infections in children.

6.1.2 Acute Respiratory Infections

The acute respiratory infections (ARI) program of the MOH is almost seven years old. Two manuals, one for ambulatory care and another for hospital care, have been produced in the past two years⁴. As with the diarrhea manual, neither of these manuals was available in the UPSs the team visited. Older normative guidelines are being used, and no current flow charts of ARI diagnosis and treatment are on display in the UPSs.

- 1. Children with severe cases of ARI and children dehydrated from their recent episode of diarrhea do not get to health centers or hospitals for treatment. What can be done to establish more effective referral systems in rural areas for these illnesses? Taking into account the recent cost-effectiveness study of community management of pneumonia, what should the Project do to advance community management of ARIs?**

Continued training for community volunteers in the recognition and treatment of noncomplicated pneumonia and diarrhea may be the best strategy to ensure that children do not progress to severe disease. However, it is easy to imitate the medical model and attempt to use drugs unnecessarily when simple cases present themselves. UPS personnel need to monitor community volunteers closely in this regard. Another strategy to improve referral is to encourage community

⁴ (Ref: "Normas y Procedimientos para las Acciones de Control y Manejo de las Infecciones Respiratorias Agudas," 1997 and "Protocolos para la Atención de los Niños y las Niñas con Infecciones Respiratorias Agudas," 1996.)

participation, especially in establishing a community-controlled emergency fund that would allow patients to be taken to the hospital or closest emergency unit, as is happening in a few isolated cases. As part of the local health plan (which should be encouraged at the level of each UPS) a feasible ARI plan needs to be in place, taking into account community resources and characteristics.

Efforts to implement community management of pneumonia based on the training of community volunteers have received the support of several national and international agencies during the past two years. Simple educational materials for volunteers have been produced with funding from these agencies and private voluntary organizations.⁵ The number of volunteers trained in the country is still limited however, particularly in Region III.

Volunteers are active in some communities, but few of them have received chronometers to count respiratory rate. Drugs to be used by volunteers are provided by the United Nations Children Fund (UNICEF). The evaluation team's short visits to the communities did not allow enough time to learn more about the quality of care from these volunteers. However, reports indicate that supervision of the volunteers by the auxiliary nurses is rare. Although a cost-effectiveness study shows the practical and economic value of a community-oriented strategy, reviews of study results by experts in the field suggest that caution is needed in interpreting these results. Reports of more cases of pneumonia than the expected incidence suggest that volunteers may be overdiagnosing cases. A tendency to medicate excessively has also been described in the literature.

Personnel of Region II CESARs and CESAMOs visited by the team appear to know about the signs of pneumonia and its standard case management. However, personnel in Region III demonstrated poor knowledge of pneumonia signs. Simple cases of upper respiratory infections are referred unnecessarily, but given the poor road conditions and the lack of transportation to go to other health facilities, it appears that referral visits rarely take place. Thus, cases are incompletely treated and more likely to progress to chronic or repeated episodes. Little effort is made to ensure that referrals take place, and referrals do not receive any noticeable follow up.

During the team's visit, the team observed instances in which children were referred without first receiving treatment or other supporting measures that could allow them to reach the next level of health service in good condition. A reason given to justify this behavior was that resources are scarce and should be saved for those who can be fully treated locally. The ability to treat cases seems to be more associated with individual willingness to help and initiative, rather than with protocols. Older staff were seen to be somewhat more rigid and show less flexibility in accepting new knowledge and adopting alternatives.

⁵ (Ref: Manejo Comunitario de Neumonías. "Cómo tratar y cuándo referir al niño o niña con neumonía." 1996). Also (Ref: Manejo Comunitario de Neumonía. "Resumen de Información." Mayo a Septiembre 1996. Programa de Control de Enfermedades Respiratorias Agudas, MOH).

A particular problem in the ARI referral system is that CESAMOs are not equipped any differently than CESARs. This lack of distinction diminishes the ability of the CESAMO physician to provide a higher level of care. Because MOH ARI national norms establish the same prohibition for all levels of ambulatory care, children with severe pneumonia or severe disease are not to be treated at the CESAMO level, but need to be referred directly to the hospital, thus delaying the start of proper treatment. Furthermore, although the norms permit providing complete treatment for cases that cannot be referred, treatment generally does not occur. However, given the lack of manuals in the health facilities, health personnel may not know of these alternatives.

Another important strategy is to improve the problem-solving ability of the CESAMO staff. CESAMOs should be the mid-level point of referral for cases from CESARs. Possibly because of a schedule that has physicians working at the CESAMOs only during the day, but as likely because of lack of skills and equipment (and perhaps even lack of confidence in their ability to treat the cases), doctors at these centers were observed not fulfilling their function in the chain of referral. A "culture" of local decision making and patient treatment could be fostered, such as treatment already permitted by MOH norms in the case of emergencies. Likewise, providing simple equipment such as nasogastric tubes or intravenous drips and solutions could allow physicians and nurses to treat children who cannot tolerate ORS, or treat patients in shock, in six hours or less; that is, without requiring an overnight stay.

Shortages of drugs and supplies to treat ARI are common, but the magnitude of such shortages varies from region to region. In one region, ACCESO-fostered participation of local health committees has resulted in the UPS charging an additional fee, which is then used to help with transportation and other facility improvements. Auxiliary nurses in this region were more likely to mobilize themselves or to get someone from the community to pick up their drug supplies. In another region, no local committees were active in the areas visited and UPS personnel expected the area to deliver their supplies.

2. How should the project support the area-level hospitals in the treatment of pneumonia as the first line of referral in the primary health care system?

The management of ARI cases at the hospital level (both area and regional hospitals) needs to be revised and improved. The current manual on treating hospitalized cases was not available in the wards of the hospitals the team visited. This manual should be made widely available. Treatment decisions were seen to be less than adequate: patients were treated with intravenous solutions for longer periods than necessary, and expensive antibiotics were prescribed. Hygiene conditions in the wards visited by the team were deplorable. Unsafe disposal of waste and biological material made contamination of patients through intravenous connections more likely. Children were left longer than necessary without food, making malnutrition likely. The equipment necessary to provide supportive care was scarce. The number of professional nurses in the hospitals was low compared with the number of physicians; however, physicians did not appear to spend much time in the clinical care of patients. In area hospitals, because of the medical staff's limited ability to

treat complicated cases, severe cases were eventually referred to the hospitals in Tegucigalpa. Quality assurance activities already underway will hopefully address some of these issues.

Physicians at area-level hospitals need to be updated to international standards in their treatment practices. Particularly in the area of diarrhea and pneumonia, no protocols for case management exist. Emphasis should be placed on discouraging the use of intravenous fluids and parenteral antibiotics for longer periods of time. It must be understood that resuming oral food intake is the best way to prevent prolonged episodes of diarrhea and malnutrition in a hospital environment.

Along with course work and training in the preceding subjects focused on technical improvements in care, more professional nurses are needed to run the wards. Alternatives between the too-short training of an auxiliary nurse and the long-term training of a professional nurse need to be considered.

Hospitals need to improve their level of hygiene and the safe disposal of waste and biological and hazardous material. A separate analysis of the possibility of establishing a cost-recovery system in the area-level hospitals is needed. More importantly, the current disorganization that seems to reign in these hospitals may be a main cause of the dispersion of resources that could be used to improve service. A more in-depth study of the hospital system may need to be financed with project funds.

The lack of the basic equipment necessary to provide adequate care makes a hospital a less desirable place to which to refer patients. This lack of equipment is not only related to the pediatric units, but also to the maternity unit. Hospitals need basic equipment that could be easily maintained with spare parts obtainable in country. The presence of such working equipment could radically improve the quality of care given in these hospitals. Sophisticated equipment should be restricted or totally avoided. The MOH's commitment to maintain such equipment should be ensured. Apparently the project will be placing some equipment in the hospitals, although the team did not learn of this initiative during the evaluation.

6.1.3 Expanded Programs for Immunization

- 1. Immunization coverage of children under one with the four traditional vaccines has remained at over 90 percent, and of pregnant women with two doses of tetanus toxoid at over 95 percent. Thus, what would be an appropriate strategy for reducing and finally terminating Project support of the cold chain, including travel costs and per diems of vaccinators?**

The Expanded Program for Immunization (EPI) is one of the most successful vaccination programs in the Americas. Its success is the result of the MOH's strong and long-term commitment to provide this basic service to the Honduran population.

However, some areas of the country have shown an increase in the abandonment rate of immunizations in the past three years.⁶ Although health volunteers and auxiliary nurses keep a list of children under one year (LISVAC) and another list of women of reproductive age (LISMEF), these lists are sometimes based on the population attending the UPSs, rather than on census data. This method of compiling data would suggest an overestimation of the immunization coverage, because the denominator is an underestimation of the target population. More importantly, this method implies that small groups of people who are already marginal to health activities may not be counted into the system.

Other issues need careful consideration before a decision is made to reduce or withdraw the support from the EPI program. The first issue is the unreliable maintenance of the cold chain. Although the HS-II project contributes funds for this purpose, effective cold-chain supervision does not seem to take place. In addition, although the MOH has guidelines to monitor the functioning of refrigeration units, health personnel do not necessarily follow those guidelines. For example, the green color indicator is not changed even when refrigeration units have not received regular maintenance. Technicians usually provide services only after refrigeration units are broken. This incorrect reporting of the condition of refrigeration units suggests that the vaccines may not always be kept in optimal conditions. Furthermore, the inventory of equipment is not up-to-date, because some regions do not keep good information systems. An unknown number of cold-chain vehicles and other equipment are old and may need to be replaced.

Additionally, some personnel at health facilities do not have all the skills and knowledge to care properly for the cold chain. Inconsistent levels of knowledge among personnel of how long the vaccines can remain in the portable thermos when the electricity goes off or when the refrigerators are broken down suggests additional weaknesses in the cold chain.

Although increased community involvement is making it possible for health workers to deliver the basic package of immunizations to remote villages, these immunization activities need to receive further support to ensure the cold chain is maintained. Funds donated by agencies rarely reach this level; they are mainly assigned for supervision from central to regional and area levels. Consequently, alternative strategies that allow the funds to go directly to the UPS may be needed. Community contribution to per diems should also be encouraged, because active community participation often contributes to development.

The evaluation team does not think it will be prudent to withdraw funds from the EPI campaign at the moment. An in-depth economic and political analysis of the feasibility and commitment of the MOH to continue the program is required first. Meanwhile, resources should be allocated at the local level (UPS), the closest level to the point of service delivery.

⁶ (Ref: "Evaluación del Programa Ampliado de Inmunizaciones (PAI) Honduras, 1994-1997." Secretaría de Salud, Dirección de Riesgos Poblacionales, Tegucigalpa, M.D.C. Septiembre 1997).

6.2 Conclusions

Although diarrhea-associated mortality has fallen to second place as a cause of death for all children under 5 years of age, it is still the first cause of mortality for children from 6 to 11 months old. Inadequate weaning practices may be contributing to a higher incidence of diarrhea in this age group, resulting in higher mortality. Continued promotion of exclusive breastfeeding and appropriate weaning practices remain valid program strategies.

Although the team heard many reports of the use of ORS and home fluids during diarrhea, appropriate nutritional and drug management is still a problem. Over-the-counter medications are widely used before mothers take their children to the health facilities. Furthermore, health personnel still rely on the use of antibiotics and antiparasitic drugs to treat simple cases of diarrhea.

The team observed that in the field, identification and management of cases of upper respiratory infection and pneumonia were less than adequate in terms of technical skills and resources. The lack of technical information (manuals and guidelines) that could be used by personnel to improve their ability to provide care contributes to this poor management. In addition, lack of supervision contributes to inappropriate practices in patient care.

Improvements in household and community treatment of simple cases of diarrhea may be part of the reason why health posts are now treating a larger percentage of severe cases. The simpler cases are now being treated at home. Recently implemented strategies to treat simple cases of pneumonia in the community also help to provide early care and reduce pneumonia-related mortality.

This improvement in community management implies that UPSs need to be prepared to provide fast, quality care to severe cases. The referral system needs to be restructured. Nurses and physicians lack the skills and resources necessary to treat patients who cannot be referred. No clear functional difference exists between CESARs and CESAMOs in terms of problem-solving ability, particularly for pneumonia. Patients frequently decide to go directly to hospitals to avoid referral. The distances and lack of transportation to CESAMOs and hospitals make referral difficult. The feasibility of referral is rarely assessed, and very little follow-up of cases was evident during the evaluation team visit.

Patient care at the hospital level is deficient. Poor hygiene, uneven distribution of professionals, and lack of equipment and supplies detract from the quality of hospital care.

6.3 Recommendations

- The administrative delays that have held up the implementation of AIN/AIEPI must be overcome, and the activities and training in the integrated management of

the child in the community must be started. AIN and AIEPI should continue to receive significant project support. An appropriate balance between curative and preventive components (especially nutrition) should be maintained in this process.

- Drawing on the excellent materials prepared by BASICS and other CAs, AIN/AIEPI training should be dramatically expanded to all UPS staff in a short period of time—perhaps two years. Follow-up supervision should, of course, be conducted to measure the impact of such training. High-quality materials should be made widely available at the UPS (as well as to hospital nursing staff).
- A realistic system for supervising community volunteers and health personnel needs to be designed. Community volunteers need active supervision by UPS staff, because it is easy to imitate the medical model and use drugs unnecessarily. Community members should be encouraged to resume talks on diarrhea and pneumonia.
- Current protocols that allow UPS staff to treat children with diarrhea and ARI when referral is not possible should be put into practice. Even when referral is still needed, providing adequate care at the UPS level may enable children to get to the next referral point before complications or death occur.
- Another important strategy is to improve CESAMO staff's problem-solving ability. Simple equipment such as nasogastric tubes or intravenous drips and solutions may allow physicians and nurses to treat children who cannot tolerate ORS, or patients in shock, without requiring them to stay overnight. Updated training for staff should de-emphasize the role of drug treatment and emphasize preventive strategies.
- Innovative pilot experiences to foster community involvement in day-to-day activities at the CESARs are taking place and should be encouraged. Such involvement will also strengthen the referral system to increase the chances of sustainability of health strategies and accomplishments. Local health information committees should meet regularly to discuss health data and UPS service coverage.
- Cold chain maintenance must be improved. Efforts should be made to ensure that funds designated for cold-chain support are actually used for that purpose. Communities should be encouraged to contribute per diems to help mobilize the health workers. Meanwhile, it is not yet an appropriate time to reduce or withdraw funds from EPI.
- The quality of hospital care being offered deserves further analysis. Physicians at area hospitals need to update their skills in standard case management. Efforts are

needed to discourage use of intravenous fluids and parenteral antibiotics for longer periods. More professional nurses are needed to run the wards. Hospitals need to improve their level of hygiene and safe disposal of waste and biological and hazardous material.

- Hospitals also need basic equipment that could be easily maintained with spare parts obtainable in Honduras. Sophisticated equipment should be restricted or totally avoided. The MOH should look for self-financing alternatives and permit local replacement of equipment when necessary.

7. MATERNAL AND NEONATAL HEALTH CARE

Honduras continues to have one of the highest maternal mortality rates (MMR) in the hemisphere. As of 1990, the MMR was 221 deaths per 100,000 live births, with a large number of maternal deaths occurring in the home. Some evidence indicates that the MMR has declined in the past eight years, but the extent of that decline is not known.⁷

Improvements in maternal mortality can be expected as a result of a growing urban migration with a resultant increase in access to medical services. In addition, the MOH has recently established Maternal-Infant Health Clinics (MIHC), which are providing quality care for normal births. Recent HS-II project initiatives include workshops on improved treatment of anemia and a pilot project to provide community-level safe motherhood services in Region II. However, it is too early to assess the impact of these initiatives.

Although these changes are to be applauded, many rural women are still without access to maternity care. Because of the distances to health services and the lack of transportation in rural areas, two-thirds of rural women stay home to give birth, usually with the help of the community midwife. The community midwife generally has minimal training and no medical back up at the community level. Local health centers provide only prenatal care. Large numbers of maternal deaths are a result of delays in reaching medical help.

7.1 Findings

7.1.1 Current Maternal Health Services

Traditional Birth Attendants

Field interviews and recent MotherCare research demonstrate that the traditional birth attendant's (TBA) role as a gatekeeper to maternity services is of key importance. For most rural women, the TBA remains the central provider of prenatal and birth services. The TBA is looked to for help when problems arise and is relied on to recognize danger signs and make appropriate referrals. The research also indicates that as a result of past training, the majority of TBAs now employ clean birth practices and newborn stimulation. However, the TBA's ability to detect danger signs and to make appropriate referrals in a timely fashion remains low. Danger signs are often first

⁷ A more recent study used the sisterhood method to calculate a MMR of 166 deaths per 100,000 live births. It now appears that the large decrease in the MMR reported in that study may be an artifact influenced by underreporting and small sample size and should not be cited as an accurate figure. See Appendix F. Meanwhile, the MOH has recently begun to use the figure of 142 deaths per 100,000 live births, though the team did not see and cannot comment on the quality of data on which that figure is based.

treated at home with traditional cures or inappropriate medicines that further delay the decision to seek help. Unrecognized danger signs included bleeding during labor, premature rupture of membranes, prolonged labor, jaundice, respiratory infections, and conjunctivitis. In addition, few TBAs were able to give correct information on breastfeeding problems, especially in high-risk situations such as low birthweight or premature birth.

Obstetric Emergencies and Referral System in the Rural Areas

The current maternal health system relies on a system of referral for women at high risk of problems in childbirth. An apparently effective public education campaign of the "Four Toos"—too early, too often, too many, too late—alerts the public to the increased risk of pregnancy for women to whom these indicators apply. This message also serves as the rationale for the family planning program, motivating women to use family planning to avoid such situations.

To accommodate at-risk pregnant women who live in outlying areas, maternity waiting houses have been established at some MIHCs. Although these houses are a good option for some women, the majority of the women at-risk reported that leaving their family before labor starts, paying the high costs of transportation, and staying at an unfamiliar facility far from home are obstacles too great to overcome. Women can always identify other women who have stayed at home with the same risks and have had normal births. Every CESAR and CESAMO the team visited reported that women often arrive seeking help, but few of the centers have the necessary training or supplies.

Maternal-Infant Health Centers

Several well-functioning, project-supported pregnancy and childbirth centers were visited during the evaluation. Clinics visited including those in Siguatepeque, La Libertad, the main center for normal births for San Pedro Sula located in Hospital Leonardo Martinez, as well as a small semiprivate center staffed by a well-trained TBA in Potrerillos. These clinics appeared to be clean and well run. Although the staff in the MOH clinics complained of routine shortages of supplies and personnel, the centers seemed to be well functioning, well used, and accepted. In the team's conversations with waiting mothers, the majority of mothers reported being comfortable and well treated in the clinics. All four clinics reported that they only accept low-risk women and refer problems as they arise. All four were able to provide fluid replacement and effective prevention and control of hemorrhage. Each of the four centers visited had its own strengths and could be used as a model for developing new clinics.

- The Siguatepeque clinic was well located and well staffed. It was of medium size and therefore able to accommodate a number of births at one time without becoming impersonal.

- The La Libertad clinic was beautiful and well run. The clinic had been built under the ACCESO initiative and with financial support from the municipality. The staff and patients had a strong sense of "ownership" and pride.
- The San Pedro Sula facility was clean, airy, and efficient. A staff of one doctor, one professional nurse, and a group of auxiliary and student nurses were able to provide quality care to 20 to 30 women at a time.
- The Potrerillos clinic was a model of a TBA-staffed birthing center.

Hospital Services

Because of the importance of the hospital in any maternity-care system, two hospitals were visited, the National Hospital in San Pedro Sula and the Regional Hospital in Comayagua. Both hospitals have a serious shortage of staff and supplies. The National Hospital receives all high-risk referrals, but the majority of the births attended there are normal. Although the National Hospital has sufficient space to accommodate more births if the demand increases, it has neither the supplies nor the personnel to do so. The Comayagua Hospital seemed on the verge of collapse. The labor room was tiny and inadequate, and none of the equipment in the delivery room—the delivery tables, lights, and oxygen equipment—was functioning. Furthermore, every available space was piled high with boxes and broken machines. Of the 46 maternal deaths reported in 1997 for the region, 20 of them occurred in this hospital.

Both hospitals showed evidence of poor handling of contaminated hospital wastes, with blood, undisposed placentas, and soiled linens strewn about the delivery rooms. These practices constitute a high risk for the spread of HIV and other blood-borne diseases.

Other Maternal Health Issues

From the level of the CESAR to the regional hospital, supply and equipment shortages prevent the provision of services. In addition, these facilities lack protocols or job aides to guide the provider in medical decision making. Because most auxiliary nurses work alone in the CESARs, the nurses have little opportunity to expand their knowledge. The MOH revises its norms yearly, yet the team did not find copies of the norms in any of the health facilities visited. In addition, patient or community educational material, including posters, flip charts, or felt boards was lacking. Most clinic walls were bare or contained one or two posters.

Family planning is mentioned to emphasize its importance in any safe motherhood program. The MOH promotes the use of family planning to increase birth spacing and to reduce the total number of pregnancies as a key element in its reproductive-risk strategy. A well-functioning family planning program is needed to meet these goals. The current system was found to be

inadequate in the number and type of options available and in its presentation and delivery. (See Chapter 8 on family planning.)

7.1.2 Neonatal Mortality

Honduras has seen a dramatic decrease in its infant mortality rate over the past decade (see Chapter 6, Child Survival, for more information). Currently, over 50 percent of all infant deaths occur in the neonatal period. According to the National Epidemiological and Family Health Survey conducted in 1996, the most frequent causes of death in infants were infection, asphyxia, respiratory infection, and prematurity. About 40 percent of these deaths occur in the first day of life.

Prenatal care was offered in all of the facilities visited by the team. The content of care focused on weighing the mother, checking her blood pressure, measuring uterine growth, providing tetanus immunization, and identifying risk. Little emphasis was given to patient education, particularly information on nutrition and newborn care, or to postpartum family planning.

Neonatal follow-up is seen as the responsibility of the TBA for women whose births are attended in the home. Yet according to the MotherCare investigation, danger signs in the newborn, including jaundice, low birth weight, fever, respiratory distress, and conjunctivitis, were not well recognized by TBAs or mothers. Furthermore, dangerous practices such as giving the newborn tea, water, and pacifiers are common. Based on these findings, TBA training protocols have been revised to provide training in neonatal care.

1. The 1996 survey data indicate that rural, less-educated women prefer to go to a CESAMO rather than to a CESAR for prenatal care. For many women a CESAR would be an adequate place to receive prenatal care. What aren't women utilizing the prenatal services provided by CESARs?

All of the CESARs the team visited were having difficulty providing services. These facilities had few supplies, medicines, or equipment, and were almost all staffed by one nurse auxiliary who divided her time between clinic hours, field visits, supervision of many community volunteers, and an overwhelming amount of required paper work. Some of the nurses were not well trained. In addition, the clinics are only open in the morning, and because of the demanding schedule of field visits, as well as training and holidays, the CESARs are closed in some cases more than they are open. Healthy women who have experienced previous uneventful pregnancies have little incentive to overcome these barriers for a service that produces no tangible outcome.

In addition, the population generally has more faith in doctors and their abilities than in nurses. CESAMOs are generally better staffed and have better coverage, so they are more reliable. Also, if a problem does arise, the auxiliary nurse at the CESAR is unequipped to treat most problems and so will only refer the patient to the CESAMO anyway. This problem exists at all levels of

service. The team was told that low-risk women who would be best served at a Maternal-Infant Health Clinic (MIHC) often bypass the MIHC to go to the National Hospital in Tegucigalpa because they will see a specialist there. The current system has no incentives to encourage patients to choose the appropriate level of care.

2. What efforts should be made to strengthen the image of CESARs or should attention be given to increasing the number of CESAMOs in order to extend prenatal coverage?

Increasing the number of CESAMOs would certainly increase women's access to prenatal care, particularly to the skills of physicians, as well as to medically trained birth attendants. However, the farther from the community a women must travel, the less likely she is to seek care except in emergencies. Perhaps a simpler solution is to strengthen not the image of the CESARs, but the provision of services at that level, by increasing the coverage to two nurse auxiliaries per CESAR and ensuring that needed training and equipment is provided.

Efforts should be made to strengthen the communities' perception of the benefits of prenatal care. One possible route would be to extend the BASICS model, as well as its new educational and job aides, to include prenatal care, normal-birth postpartum and neonatal monitoring, thus showing women the clear connection between healthy mothers, normal births, and healthy babies. Such a job aid would also give the provider clear counseling guidelines for encouraging healthy behaviors and for giving appropriate advice or referrals when early warning signs appear.

3. With regard to safe delivery and management of obstetric emergencies, evaluate what has been accomplished to date in achieving PROAG Amendment 22 results indicators. Advise on what the mission and the MOH should do over the next five years to reduce maternal mortality from obstetric emergencies in rural areas.

The three main indicators for maternal and neonatal health are (1) reduced maternal mortality ratio (maternal deaths per 100,000 live births) nationally from 221 deaths (1989 baseline) to 175 deaths (1999); (2) the percentage of rural women who gave birth in the last five years who had a prenatal visit at a health facility during last pregnancy increased from 67 percent (1991) to 82.5 percent (1999); and (3) increased percentage of births attended by health personnel (excluding midwives), with a target of 41 percent.

The most recent statistics available indicate positive change:

- (1) The 1996 National Epidemiology and Family Health Survey used the sisterhood method to calculate an MMR of 166 deaths per 100,000 live births. Although some questions on that figure were cited previously, the results of the sister-based technique do indicate a potential decline in maternal mortality. Preliminary results of an MOH study conducted in 1997 also indicate a potential decline in the MMR.

- (2) Eighty-four percent of pregnant women now receive at least one prenatal visit.⁸
- (3) Fifty-four percent of births were attended by health personnel. This figure exceeded the target.

Much of the gains in these areas can likely be attributed to a general change in population expectations toward institutional births. Another factor is likely the successful introduction and use of MIHCs (although the clinics are not yet widespread, nor are births attended in these facilities.)

Although much of the thrust of the MOH effort to reduce maternal mortality has been to improve the system of referral for high-risk women and to increase the number of women giving birth in health service facilities, further gains may be difficult. The MOH's strategy, although theoretically sound, requires a tremendous capital investment including opening new facilities to handle the growing demand for institutional low-risk births, as well as solving the problems of distance and lack of transportation for rural women. It also results in an additional increase in demand on facilities that are presently struggling to provide current services.

In light of the fact that 68 percent of rural women still give birth at home, and it is estimated that up to 70 percent of all maternal deaths occur in the home, it would seem advisable to develop a more immediate solution at the community level. Also, although efforts should continue to encourage at-risk women to seek medical care, building new facilities and supplying them with sophisticated equipment and personnel is not always the best solution. In fact, one of the most promising interventions internationally is the upgrading of health centers and other health facilities so that they can provide basic essential obstetric care when needed.

Basic Essential Obstetric Care (BEOC) is defined as provision of the following services:

(1) parenteral antibiotics, (2) parenteral oxytocics, (3) parenteral sedatives and anticonvulsants, (4) manual removal of the placenta, (5) removal of retained products, and (6) assisted vaginal delivery.

The first five of these services will effectively treat, or stabilize until transported, the majority of cases of postpartum hemorrhage, sepsis, and eclampsia, the three biggest killers of childbearing women. The skills required to provide those services include the ability to read and use protocols, to start and maintain an IV, and to follow the sterile procedure for manual evacuation of the uterus. The supplies needed are equally basic.

MOH norms for the Management of Obstetric Emergencies require that all health personnel provide the necessary procedures to stabilize women with obstetric emergencies before they are transported. However, few providers were seen to offer this service. Personnel seemed unaware

⁸ *Honduras, Improving Access, Efficiency, and Quality of Care in the Health Sector*, World Bank Report, October 31, 1997.

of this required role and reported inadequate training and equipment to accomplish these life-saving procedures. Referral was their only response to obstetric emergency.

Although upgrading CESARs and CESAMOs to provide these stabilization services would take a clear and committed effort, such services would allow these facilities to (1) provide care to women in their own communities in a timely fashion, (2) increase use and confidence in UPSs, and (3) minimize reliance on high-end projects to further reduce maternal mortality.

In addition, increasing the availability of trained personal to assist in the home during emergencies, and strengthening TBAs ability to prevent and control hemorrhage would be powerful adjuncts to this measure. Additional TBA training would include administering drugs that have been used successfully elsewhere in the world by TBAs to control, or in the case of high parity or multiple gestations, prevent hemorrhage, and administering rectal fluids to treat shock.

An excellent example of a low-cost model for providing this service at the community level was seen in Potrerillos, where a TBA was hired to staff the clinic and attend normal births. She was given a room in which to sleep and keep her things and was in phone contact with a local doctor as needed. This TBA appeared well trained in management of normal birth, as well as in prevention and control of hemorrhage. Women who came to the clinic were charged L 200 to 400 (US \$16 to \$30), but it was reported that no one was denied care. Although this arrangement was explained as "semiprivate" (the doctor was paid by the Ministry, but the birthing center was owned by the doctor), it is a model that can easily be replicated in areas where capable midwives can be found.

- **What would be an appropriate role for the Health Sector II Project in reducing perinatal mortality? What Project assistance should be provided in this area?**

Because it has been well documented that more than 50 percent of infant deaths occur in the neonatal period, and that 40 percent of these deaths occur in the first 24 hours of life, a concerted effort should be made to reach the newborn. As mentioned, program needs include the following:

- (1) Increased family and community awareness of the benefits to the mother and child of prenatal care. Project assistance should be given to the BASICS program of growth monitoring to extend the program scope and educational materials to include the prenatal period.
- (2) Increased awareness of danger signs for mother and baby during pregnancy and delivery, and in the postpartum and neonatal periods. Program assistance should continue to support the Regional Maternal Mortality Initiative (see Appendix F) and if successful, to expand the initiative throughout the country.
- (3) A continued increase in the number of women using trained personnel for

childbirth. With such an increase, it can be assumed that newborns will receive early evaluation, care, and referral when needed. Training of TBAs should be reinforced accordingly.

- (4) Continued efforts to reach the public with messages about the importance of exclusive breastfeeding. MotherCare research carried out for this project indicates that babies are often given teas, water and *chupones* in the first few hours after birth. The research also indicates that diarrhea is not associated with danger. Good prenatal education through the BASIC's model could have a positive impact on these practices (Appendix F).

5. Why do pregnant women with life-threatening problems not get to health centers and hospitals?

The MotherCare project provides the following reasons why women do not get to health facilities:

- Lack of trust in health institutions because of bad treatment, or lack of personnel, equipment, and supplies. Lack of familiarity with service institution or staff.
- Inability of the mother to leave without the consent of the partner or family.
- Money, other children, transportation, or long distances.

Conversely, reasons for seeking care are as follows:

- When a danger sign such as a hemorrhage is recognized.
- When community support is available for money, transportation, and child care. Some communities have these services available to anyone who needs help in an emergency situation.

6. What can be done to establish more effective referral systems in rural areas for obstetric emergencies?

Once again, it does not appear that the problem is so much the referral system, per se. Health care personnel seemed aware of patients who could benefit from referral and reported that referrals were made regularly. Personnel also regularly reported that for rural women, the issue was getting to the needed care. Therefore, the recommendation remains that what is needed is to bring emergency care to the community.

Other possible solutions include improved communication networks for health workers to get advice on decision making for difficult cases and ambulance service. However, both of these solutions require large cash inputs.

7. What innovative approaches might be employed to address obstetric emergencies?

Because the main causes of maternal deaths are hemorrhage, sepsis, and eclampsia, and successful treatment of each of these conditions requires rapid access to medical care, a system should be created that can treat these conditions at the community level. In many communities around the world, health centers and other small facilities are being upgraded to provide basic essential obstetric care. This approach should be adopted in Honduras.⁹

To adopt this approach, the following is recommended:

- TBAs could be supplied with and trained in the use of emergency drugs to prevent or control hemorrhage after the birth of the placenta.
- UPS personnel, including auxiliary nurses, could be supplied with and trained in the use of intravenous fluids and emergency drugs to control hemorrhage, magnesium sulfate to manage eclampsia, and intravenous antibiotics to treat sepsis.
- Efforts could be continued to increase the number of maternity clinics to further increase the number of births attended by trained personnel.

These measures must be supported through an increase in resources at the rural level, including improving the capability and availability of health personnel, equipment, and supplies.

In addition, the following is recommended:

- (1) Community-level, user-friendly protocols and job aids on basic care for obstetric emergencies should be developed and distributed.
- (2) Efforts should be made to improve relationships between hospital personnel and TBAs. (MotherCare has a great deal of experience with this issue in Guatemala and in other regions).
- (3) Corresponding norms and protocols should be developed to detect and manage perinatal and newborn complications at the health posts, health centers, and the referral hospitals. (These norms and protocols should be kept as simple and as accessible as possible.)

8. What can be done to increase the proportion of rural, less-educated women who deliver in hospitals or MCH clinics?

To further increase the number of women giving birth in existing health facilities, efforts should be

⁹ *Guidelines for Monitoring the Availability and Use of Obstetric Services*, UNICEF, October 1997.

made to create "mother-friendly" birthing centers staffed by well-trained midwives or nurses. Research done by MotherCare for HS-II has indicated that allowing women to bring family, their own clothes and food, and to give birth in the position of their choice would encourage greater use of these health facilities.

In conversation with mothers at the MIHCs in Siguatepeque and La Libertad, women expressed a great deal of satisfaction with their care. They also reported that many of the local women they knew now used the clinic and that fewer women were staying at home to have their babies. Therefore, it seems likely that if more communities are provided with low-tech birthing centers where women can receive good quality care, such facilities will be used. Distance, lack of familiarity, and long transportation time will continue to discourage some women from seeking care far from their homes.

9. Does the Ministry of Health hospital network have the capacity to absorb an increase in institutional births? If not, what project assistance should be provided to the Ministry to increase its capacity?

Much of the MOH hospital network is underused in terms of space, but not in terms of personnel or supplies. The 1997 World Bank report, *Honduras: Improving Access, Efficiency, and Quality of Care in the Health Sector*, recommended converting this underused space to expand the MIHCs. Hospital staff reported that they were currently able to meet the demand. They also reported that the majority of births attended in the hospital were normal.

Hospitals should be used as the end of the referral chain, using their resources to treat high-risk pregnancies and obstetric emergencies. An incentive system needs to be developed to help patients choose the appropriate level of care. (The World Bank report contains a detailed description of these incentives.)

Future project support should be directed to strengthening and expanding normal-birth facilities closer to the communities, and to ensuring that maternity-waiting homes are available at all hospital facilities for high-risk referrals. In addition, long-term solutions need to be found for the chronic problem of lack of supplies and reliable equipment in the hospitals.

10. What can be done to increase the proportion of all women who give birth who receive a timely postpartum checkup? How can postpartum care of the mother be effectively integrated with the care of the newborn?

Implementation of the preceding recommendations will allow the majority of women to have contact with a trained birth attendant. That attendant should provide postpartum and neonatal evaluation and care, as well as make arrangements for postpartum check-ups at appropriate intervals. It has been shown that when offered good-quality, caring services, women will return for follow-up care.

Education and counseling should be emphasized and rewarded for all health personnel assisting postpartum women. Also, the integration of maternity care into the BASICS program should have the effect of teaching women about the importance of the postpartum period for the mother's and baby's health.

7.2 Conclusions

Beyond that which currently exists, the MOH needs to develop a comprehensive program for safe motherhood that realistically serves the needs of the rural population. Although visible progress has been made in this regard—such as the "Desarrollo de la Salud Perinatal" program in the regional hospital of La Paz and the expansion of MIHCs in areas such as Siguatepeque—there remain major areas of maternity care whose neglect puts women, particularly rural women, at risk. There is a need for quality care that starts with well-trained TBAs and progresses through the health centers to the hospital level. Steps to achieve such quality care are as follows:

- (1) Education and preventive actions during prenatal care needs to be strengthened. The current focus on risk identification and referral is important, but the opportunity for health and nutrition education should not be lost. At least 30 to 40 percent of all infant deaths are the result of poor care during pregnancy and delivery.
- (2) Basic emergency obstetric care is needed at the community level. Although the referral system can work well for at-risk women during the prenatal period, this system is impractical for dealing with obstetric emergencies, usually 15 percent of all births. Current customs rely on the traditional birth attendant, the woman, or her family to recognize danger signs when they occur and then to travel to the local health post where a referral is made to go to the nearest maternity clinic or hospital. In practice, a woman suffering from hemorrhage, eclampsia, or sepsis has neither the time nor the means of transportation to make such a trip.
- (3) The MIHC program is working well although there are a limited number of such clinics in the project area. The MIHC program should be expanded and adapted to local needs.
- (4) Hospitals need support to provide better quality obstetric care. Maintaining the current facilities must be made a priority, as well as ensuring that reliable equipment and supplies are available.
- (5) Mothers and their infants need to receive care soon after delivery, a period of great risk for both. Families and TBAs need education on danger signs in the mother and newborn. The current system does not have a program to ensure that women and

infants receive this care.

7.3 Recommendations

A comprehensive program of safe motherhood should be developed to reach pregnant women in the rural areas. The following steps are suggested to develop such a program:

- A country-wide educational program should be implemented to teach rural women, their families, and communities how to recognize danger signs during pregnancy and labor, and in the postpartum and neonatal period. In addition, families and communities need education on how to make appropriate decisions about seeking help when needed. Building on the MotherCare investigation, the structure of the program should be multidimensional:

Directed to the Family

- Teach women and their families to recognize danger signs during pregnancy and birth, and in the postpartum and neonatal period.
- Counsel families on what is needed to prepare for birth including money, supplies, decision making if problems arise, and emergency transportation.
- Direct educational outreach on the risks of pregnancy and childbirth to men in their roles as partners and fathers. Include a balanced presentation of the relative risk of pregnancy compared to contraceptive methods.
- Provide information about the importance of prenatal care for at-risk women with emphasis on the risk of closely spaced births.

Directed to the TBA

MOH activities should continue, focusing training on the following aspects (this training should be "hands-on" and receive thorough follow-up):

- Understanding the cause and effect of danger signs.
- Reinforcing clean birth practices.
- Working as partners with the medical establishment.
- Continuing to refer high-risk women to a hospital.

- Providing first-level treatment and stabilization of obstetric emergencies.
- Managing early delivery of the placenta.

Directed to MOH Health Service Staff

- Strengthen the community's perception of the benefits of prenatal care. One possibility would be to extend the BASICS growth monitoring program, as well as its new educational and job aids, to include prenatal care, normal-birth postpartum and neonatal monitoring, showing women the connection between healthy mothers, normal births, and healthy babies. Such aids would also give the provider clear guidelines for encouraging healthy behaviors and for giving appropriate referral when early warning signs appear.
- Strengthen the CESARs' and CESAMOs' ability to provide good quality prenatal services and treatment of obstetric emergencies where appropriate.

Directed to the Community

- Support community initiatives to develop a community-run emergency transportation system, providing either transportation or funds to any women with an obstetric emergency. Sales of clean-birth kits to mothers could be used to finance such a fund.

Basic emergency obstetric services at the community level should be established. The following activities should be implemented to establish these services:

- TBAs should be supplied with and trained in the use of emergency drugs to prevent or control hemorrhage after the birth of the placenta.
- UPS personnel, including auxiliary nurses, should be supplied with and trained in the use of intravenous fluids and emergency drugs that have been used elsewhere with success, and intravenous antibiotics for the treatment of sepsis.
- **Perhaps the most important recommendation of the entire report is that energetic project efforts should continue to expand the number of maternity clinics and MIHCs, to further increase the number of births attended by trained personnel.**
- Following the World Bank's recommendation, it may also be appropriate to locate new clinics in underused area hospitals. The "super CESAMOs," called for in the *Nueva Agenda en Salud*, also have an important role to play in providing emergency obstetric care. Such facilities should receive project support.

- Every public hospital should develop the capability to provide quality essential obstetric care. To ensure that this capability is developed, the MOH must provide hospitals with a base of economic support to guarantee the availability of needed supplies and equipment, as well as to enable management and quality-control capability. (See recommendations in Appendix D.) The safe disposal of contaminated hospital wastes should be a priority. Norms for handling and disposing of hospital wastes have been developed, and hospitals should be held accountable for their implementation. Resources must be provided to hospitals so that they can adopt these safe practices quickly.
- The recently initiated work to improve quality of care should be continued, and neonatal and obstetric emergencies should be included in the scope of activities. Studies have found that quality of care is a significant factor in a woman's decision to seek prenatal care, to give birth at a health facility instead of at home, to receive postpartum care, and to use contraception. Interpersonal communication, counseling, and problem solving should be emphasized in health education and training programs.

Given the importance of an initiative directed to addressing the still-high maternal mortality figures, and given the complexity of mounting such a multidimensional program, USAID should consider hiring a CA, or contracting frequent, periodic technical assistance specialized in this area, to work with the MOH in the energetic implementation of these recommendations.

8. FAMILY PLANNING

During the last three decades, significant efforts have been made in Honduras to promote the use of contraceptive methods. These efforts have succeeded among urban and educated populations. The ENESF-96 reports that total fertility in Tegucigalpa and San Pedro Sula is 3.1 children per woman, while in the rural areas it is 6.3, or twice as many children as in urban areas. Less-educated women have 7.1 children, while women with 7 or more years of formal education only have 2.9 children. Contraceptive use among women in union living in urban zones is 62 percent; in the rural zones it is only 40 percent.

Traditionally, the Honduran private sector has been the principal source of contraceptive services. Recently, the amount of contraception provided by the public sector has increased; public sector institutions now account for two-thirds of IUD insertions and one-third of sterilizations. To achieve an increase in contraceptive use, public sector outreach will need to increase to cover rural populations and marginal urban sectors where the lowest prevalence is found.

Amendment 22 to the Health Sector II Project Agreement focuses on (1) implementing pilot projects to test new or improved approaches to family planning (FP) use; (2) increasing couple-years of protection (CYPs); (3) increasing postpartum acceptance of FP; (4) increasing community registration of FP users; and (5) increasing MOH purchases of contraceptives. Questions in the evaluation SOW ask the team to look at accomplishments in these areas, as well as the level of commitment of the MOH to FP; institutional barriers to acceptance of FP; expansion of voluntary sterilization (VS) and IUD services; contraceptive supplies; supervision of FP; and CYP reporting.

8.1 Findings

8.1.1 Accomplishments

- 1. Evaluate what we have accomplished to date in achieving PROAG Amendment 22 family planning results indicators, especially the efforts to improve the postpartum/postabortion family planning activities in the *Hospital Escuela* and other Ministry of Health hospitals; the auxiliary nurses reproductive health pilot project (including synthesizing findings of reports from the Population Council); and the family planning program of the Social Security Institute (IHSS).**

Table 1 summarizes the USAID assessment of benchmark achievement for 1997. Only one of the five benchmarks was rated as met; all others fell short of their objectives at that time. The pilot projects to test new or improved approaches have done well. CYP achievement picked up in late 1997, and the public sector not only achieved its objective for the year (208,117 CYPs against a target of 204,117), but actually exceeded private sector CYPs for the first time.

Table 1

Public Sector I.R. 3.2 Benchmarks and Project Achievements, 1997

Benchmark	Rating
a. Improved or new approaches to FP introduced.	
1. Pilot project implemented (beginning in one Area in every health Region in the country) for family planning counseling, the distribution of oral contraceptives, and IUD insertions by auxiliary nurses in CESARs.	Met
2. Increased number of Couple-Years of Protection (CYP) disaggregated by family planning method and UPS level.	Fell short
3. Increased percentage of women receiving family planning methods postpartum (first 42 days) in UPSs.	Fell short (26% of target: 8% vs. 30.5%)
4. Increased number of family planning users registered by community personnel.	Fell short (55% of target: 2,513 vs. 4,592)
b. Increased MOH purchase of contraceptives nationally.	Fell short (77% of target)

Source: SO3 1997 Annual Results Review (ARR), November 21, 1997, p. 29.

The CESAMOs have registered the greatest level of activity in family planning, especially in terms of IUD insertions. By type of facility, achievement of objectives by hospitals was 47 percent (including VS at the *Hospital Escuela*); CESAMOs, 75 percent; and CESARs, 42 percent.

By method, 82 percent of the target for IUDs was achieved; 73 percent for condoms; and 14 percent for oral contraceptives. The low achievement for oral contraceptives may be due partially to the fears generated by the mass-media campaign carried out by ProVida against Ovrette specifically, and oral contraceptives in general.¹⁰

The remaining three benchmarks were still short of reaching their objectives by the end of 1997. Part of the reason was the delay in approving the annual workplan and in disbursing funds.

Postpartum/Postabortion Pilot Project

With support from the Population Council, a pilot program is underway in the *Hospital Escuela's*

¹⁰ Annual Results Report, p. 34.

maternal-infant wing to promote family planning services for postpartum and postabortion women who were obstetric patients. *Hospital Escuela* is the training hospital for medical and nursing students. The maternal-infant section attends 20,000 deliveries and 4,000 cases of abortion complications a year. The hospital's obstetric and gynecology service trains 150 medical students annually, rotating them by department. This training is in addition to training for interns and 39 residents. Thus, the hospital is an excellent site for training in postpartum and postabortion family planning. In 1997, the hospital carried out 1,932 female sterilizations and 2,466 IUD insertions, 96 percent of which were immediately postpartum or postabortion.

In spite of its success, the *Hospital Escuela's* FP program continues to operate with USAID subsidies from the Population Council, and little progress has been made toward financial sustainability. If the Population Council support were to stop now, it is very probable that this pilot FP project would also stop because the hospital has not developed a plan to incorporate the project or its activities into its regular program. A similar program financed by the United Nations Population Fund (UNFPA) in the Mario Catarino Rivas Hospital in San Pedro Sula stopped providing family planning services as soon as donor support ended.

The Auxiliary Nurse Reproductive Health Pilot Project

This pilot project began in 1997. It was designed to demonstrate that auxiliary nurses, if properly trained, could insert IUDs, conduct pelvic examinations, dispense oral contraceptives, and take cytology samples. A group of 60 auxiliary nurses was selected from CESARs to attend a one-week course. In addition, 22 professional nurses and 11 physicians were trained. All but 5 auxiliary nurses and 2 professional nurses were certified after the initial course. Some were not certified because not enough clients were available for the practical portion of the training. Equipment and materials were provided to participating CESARs so that the certified trainees could provide this service in their health centers.

Between August 1997 and January 1998, the graduates performed 425 IUD insertions, took 1,017 cytology samples, and enrolled 425 new users of oral contraceptives. During the first six months of the program, only one IUD expulsion was reported and four more were withdrawn at the clients' request. The project has demonstrated that auxiliary nurses can be successfully trained to insert IUDs and that the community will accept this service.

During field visits, the team noticed that older auxiliary nurses with many years of service in the MOH system seemed to have more difficulty promoting family planning than their younger colleagues. These older nurses, in particular, could benefit greatly from this course. Unfortunately, this successful project has not yet been expanded to other areas of the country. MOH authorization is required and it has not yet been granted.

The Honduran Social Security Institute

Historically, the Honduran Social Security Institute (IHSS) has been one of the strongest public sector supporters of family planning in the country. IHSS hospitals established innovative, high-quality service programs several years ago. The IHSS supports a family planning clinic that serves IHSS affiliates and non-affiliates. Unfortunately, the IHSS is facing a financial crisis and its family planning program has been affected by the lack of resources. The number of services provided has recently decreased substantially, and VS surgeries are frequently canceled because of a lack of staff and materials. IHSS will need short-term financial assistance during this crisis if it is to provide comprehensive family planning and reproductive health services.

8.1.2 Expansion of VS and IUD Services

The following question refers to the postpartum/postabortion pilot project previously described.

2. **With Project assistance, the Hospital Escuela in Tegucigalpa has dramatically increased the number of tubal ligations it performs and the number of IUDs it inserts. What actions (training, equipment, renovation, logistics) would be needed to replicate this model in other Ministry hospitals and maternal/child health clinics in the country? In terms of CYP production and the potential for reducing rural fertility (as measured by survey data), which hospitals and MCH clinics should receive priority attention?**

The *Hospital Escuela* is the MOH facility that produces the greatest number of CYPs of all the public sector institutions that offer reproductive health and family planning services. As noted, its postpartum/postabortion program has been a big success. Unfortunately, as significant as it is, this program covers only 20 percent of the hospital's obstetric cases. However, this figure could easily rise to 50 percent if the hospital had a more effective information, education, and communication program.

Equally unfortunate is that *Hospital Escuela* has not served as a demonstration and training center for professionals from other hospitals. Such demonstration and training is needed if this postpartum/postabortion program is to be offered in other hospitals and maternity centers throughout the country. To offer this program, only a small amount of additional support would be needed, because *Hospital Escuela* is already set up as a teaching and training center. Postpartum IUD insertion is a simple procedure that could easily be practiced in all health facilities that provide birthing services and treat postabortion complications. Training is also relatively simple and quick. Physicians, nurses and auxiliary nurses need a few days of training and practice in the technique and in counseling clients. Training can be done locally, and commodity needs are basic: IUD insertion kits and educational materials are the most important.

Postpartum minilaparotomy is a simple procedure that is also considered appropriate technology. However, its implementation is more costly because of changes that must be made in the hospital or clinic infrastructure: it requires more personnel, and the operation can only be done by a

trained physician. The policy to expand this method should probably continue only for those places where there are appropriate conditions and when the hospital boards see the need to offer the method.

It is important to point out that VS services often rely heavily on donor support. Honduran experience shows that once this support ends, the services are often suspended. One point of view would argue that expansion of VS services should not exceed the MOH's ability to sustain them; another would argue that the services should be implemented on a meaningful scale before worrying about sustainability.

Priority Facilities for Expansion

Institutional childbirth is growing in Honduras, and a woman who has just ended an obstetric event needs effective, long-lasting family planning protection. Therefore, the priority should be to expand services to all hospitals and clinics where deliveries are attended or where abortion complications are treated. Because of the low volume of daily cases and the availability of health personnel, the MIHC offer an opportunity to serve the rural population where it is most difficult to offer these services. The possibility of offering training and technical support to the staff working in private hospitals should also be considered.

8.1.3 MOH Commitment

- 3. To what extent is the Ministry of Health committed to family planning? How can family planning activities be expanded and strengthened in the Ministry of Health? What would be an acceptable MOH family planning strategy? What project assistance should be provided in this area?**

MOH Commitment to Family Planning

"Family planning activities in the nine focus areas have not been done in a systematic manner. This is due basically to a lack of promotion and commitment on the part of the MOH, since family planning is still not a priority activity for the MOH." This was USAID's conclusion at its recent ARR.¹¹ The team agrees. Although the MOH distributes some contraceptives and provides some FP services, it does not really have a FP program.

A review of MOH documents and discussions with various MOH staff indicate nothing that prohibits family planning. However, it is also true that senior-level interest in the program is limited. The Ministry of Health promotes family planning as part of a strategy to improve the

¹¹ ARR, November 21, 1997, p. 34

health of mothers and children, not as support for a fundamental right that people have to choose the number of children they want to have and when they want to have them. As a result, the impact of the programs is limited.

This lack of commitment has serious effects at the service delivery level, where there is much more interest in providing family planning services. Family planning has to compete for resources and staff with other "legitimate" programs that have their dedicated staff and budgets. As a result, supplies to carry out the program are inadequate, staff are not trained, and educational and promotional materials are scarce. Current health training programs include few subjects on reproductive health and contraceptive management. New physician graduates do not receive training in family planning before starting their social service year, which results in many lost opportunities regarding provision of services.

This lack of commitment and interest explains many of the deficiencies in the program, including why the pilot projects, as successful as they are, have not been replicated, and why injectables, as attractive as they are to the public, have not been introduced.

Expanding and Strengthening Family Planning in the MOH

The following are among the public sector problems that most affect the orderly provision of family planning services: (1) personnel rotation, (2) lack of trained personnel, (3) lack of continuity in providing program supplies, and (4) lack of promotion of services.

At the UPS level, health staff are scarce, and staff are required to respond to a variety of programs, all of them priorities for the MOH. This high level of activity does not allow staff time to provide promotion and education regarding use of different family planning methods.

Family planning training, especially for auxiliary nurses, has been limited and in some cases obsolete. As a result, a number of auxiliaries seen during the evaluation, including those with some seniority in the system, had no confidence in their ability to handle family planning subject matter. In some cases, health post staff reinforce biases and myths about family planning in the community in which they work.

In most CESARs and CESAMOs, the staff have limited capability and few resources to solve such common problems as incorrect use of contraceptives and management of side effects. They tend to refer clients with such problems to the next highest level.

Educational and promotional materials on family planning are scarce, and the few materials that do exist are poorly used. Among the factors expressed by health staff explaining nonuse of family planning services, religion and opposition by the husband were cited in the Comayagua valley. On the North Coast, these factors did not seem to be important, perhaps because of recent economic development and modernization that favor family planning acceptance. It should be pointed out

that the 1996 survey found that religion and opposition of the spouse were not factors associated with non-use of contraceptives.

Current MOH family planning services are exclusively oriented toward women. Men are not included in programming, either as potential contraceptive users or as supporters of women who want to avail themselves of modern contraceptive technology. The MOH has not yet defined a role for men in family planning decisions.

In the health posts, staff have no incentive to create an interdisciplinary work group, and the evaluators found little sense of teamwork, either within the centers or with other FP providers working in the same area. Internal and external teamwork have been important contributors to successful family planning programs in other countries and could be in Honduras as well.

A Family Planning Strategy for the MOH

There is no simple solution to the larger problem; each of these smaller, related problems needs to be addressed and resolved if the overall problem is to be resolved. Perhaps the more pertinent question is which strategy has the best chance of success. The current strategy of working at the central level to improve service delivery does not seem to be working well, at least so far. Another strategy, to work directly at the local service delivery level, might be more successful.

Currently, family planning is integrated into maternal and child health and is easy to overlook. Until family planning becomes an independent program with its own staff and budget, it will continue to compete from a weak position with the more-established programs.

Bypassing the central level to work directly with hospitals, CESAMOs, CESARs, and Maternal-Infant Health Centers that want to provide FP services might be a more productive approach. This approach would allow the central level to continue to promulgate norms, but resources to develop local staff capability, equip UPSs, and design promotional activities could be more decentralized and geared to individual needs. In the spirit of decentralization, this approach could empower local health staff to define their own strategies for expanding and strengthening FP services. By allowing local UPSs to charge nominal fees for their services, some local income could be generated and used to cross-subsidize services for the poorest clients.

Implementation of such a strategy will require donor support for equipment, materials, training, transportation and technical assistance. Rather than request additional assistance, current resources could be reprogrammed to support local activities.

8.1.4 Institutional Barriers

4. **Besides the unavailability of services, "institutional barriers" such as age and parity requirements, exist in the Ministry of Health, which prevent more women from receiving a tubal ligation. What needs to be done to eliminate these "barriers" in order that surgical contraception can be available upon demand? Would the Ministry of Health have the capacity to meet this demand if the "barriers" were eliminated? If not, how can USAID/Honduras help the Ministry of Health in increasing its capacity to provide surgical contraceptive services?**

Institutional Barriers

The evaluation team is convinced of the existence of significant institutional barriers to the provision of all family planning methods, not just VS. Among the main limitations are norms that highlight the negative aspects and side effects of contraceptive methods rather than their health benefits. The team also observed that some providers accept the same false rumors and myths about some methods as are often found in rural communities. This explains why some health staff are afraid to promote contraceptive use. Moreover, the current MOH emphasis on obstetrical risk leads some health staff to believe (wrongly) that persons not in high-risk categories do not need, or should not receive, contraceptive protection.

Until recently, the MOH has unnecessarily limited access to contraceptive methods. Although all UPSs visited had adequate stocks of oral contraceptives and condoms, the drawdown on these methods is small. This low use is due to clients only being given a one-month supply at each visit, which increases visits and workload unnecessarily and discourages women from continuing a contraceptive method. The MOH norms also call unnecessarily for frequent check-ups and tests, which further clog the system and discourage continued use.

"Risk-neutral" norms and education about contraceptive methods are clearly needed at all levels of the MOH, but most importantly, at the service-provider level. USAID has provided a significant amount of technical assistance to the MOH to revise these norms, but the proposed revisions have not yet been accepted by the MOH. After the team's departure, the MOH reported that family planning norms were revised and reviewed by an international expert who found them neither unduly restrictive nor overly focused on contraindications. The team is not in a position to comment on these new norms.

Even if these barriers were eliminated, the MOH would probably be unable to meet the demand for family planning services, for the reasons cited previously: lack of trained staff, lack of equipment, and shortage of facilities to carry out the program. However, the question is mainly directed toward expanding VS capability. It will take time and a significant investment to expand VS capability, and that expansion would probably need to be done in stages. Existing hospitals do not have the operating rooms and recuperation areas needed for surgical contraception services. Furthermore, in addition to trained surgical teams (usually a physician and a nurse), these services also require trained staff to inform, screen, and refer clients to the VS facilities. Of course, the

necessary surgical equipment is also required and many hospital operating rooms would need extensive renovation.

The interests of the hospital directors also need to be taken into account. In several of the hospitals visited, the team found hospital directors who saw this program as a resource that could solve their need for surgical space and equipment, rather than as a way to provide a needed service to the community.

In the meantime, the emphasis should probably focus first on IUDs and injectables, methods that can be made widely available much more easily, rapidly, and at much less cost. The first step could be to make IUDs and injectable methods available at all UPSs, and to expand the provision of IUDs at postpartum and postabortion services. However, surgical sterilization should be made available in MOH facilities where demand warrants. These facilities would include all major hospitals and most Maternal-Infant Health Centers.

8.1.5 Logistics

5. How can the Ministry of Health supply system be strengthened in order to ensure that clinics and hospitals always have an adequate supply of contraceptives and IUD insertion kits on hand? Similarly, how can the reporting of balances on hand of family planning commodities be improved in order that the procurement of additional supplies does not result in an under- or oversupply situation?

As noted, oral contraceptives and condoms seem to be available in all UPSs, but injectables are not. USAID/Honduras's distribution plan for IUD insertion kits seems to be adequate. Each kit has enough instruments to carry out five insertions, more than can be made in one day in most of the institutions of the country, taking into account potential demand. If treated carefully and properly sterilized, this equipment will last a long time. However, to avoid stock outs, the Maternal-Infant Health Centers in the project areas may need to be allowed to purchase extra supplies and materials themselves when necessary. A ready source is the ASHONPLAFA clinics.

Reporting is a serious problem because of problems with the information system and because of the lack of trained staff and adequate supervision. It may not be possible just to fix the family planning portion of the system, because the system covers all commodities. In general terms, training and supervision are needed at all levels of the MOH to ensure that the logistics system functions well. As reported in Appendix D, logistics is a significant weakness of the MOH.

However, if the project changed its focus to concentrate on strengthening a selected number of rural health facilities, then an interim logistics system could be developed for those facilities.

8.1.6 Supervision

6. How could Ministry of Health supervision of family planning services be improved? What project assistance should be provided in this area?

During the field visits the team noted that there were few real supervisory visits for many of the MOH programs, not just family planning. (See also the discussion regarding the development of a new supervision/monitoring, and evaluation instrument.) The little supervision reported seemed to be focused more on administrative issues rather than on technical procedures and quality of care. The explanation provided to the team (which was not completely convincing) was the lack of per diem and transportation, and too much other work. Supervisory visits are more a concept than a reality. As with the logistics system, it is not really possible just to fix the family planning part of the system. The entire system needs to be overhauled.

However, if the project focus were revised to concentrate on a limited number of health centers, then supervision of those centers could be strengthened relatively easily. Another option would be to develop an on-the-job training program for supervisors. A CA could be contracted to design, implement, and operate a local supervision system. Local supervisors could be trained and coached by the CA until they were certified and the required support mechanisms were developed by the MOH.

8.1.7 Reporting

7. How can the reporting of contraceptives dispensed and tubal ligations performed be improved in order that reliable data are available in a timely fashion to calculate CYP achievement?

As presently implemented, the MOH information system seems to have too many deficiencies to be fixed easily. To evaluate overall results, demographic surveys need to be carried out periodically. This information is needed to calculate coverage and identify unmet needs. A basic information system on services provided needs to be set up, as well. As with the logistics and supervision systems, it is not possible just to fix the family planning portion of the MIS. The entire system has to be strengthened. However, a system could be designed specifically for a more focused project. Perhaps ASHONPLAFA could also provide assistance in this area.

8.2 Conclusions

Family planning programs need political commitment to be successful. The higher the level of political support the better. Until now, such high-level support has not been much in evidence in Honduras.

Providing contraceptive services in all postpartum and postabortion services is a simple, inexpensive, effective way to increase access to family planning for those who give birth in an institutional setting (although as noted, many women in the rural areas do not.) For institutional

deliveries, auxiliary nurses can be successfully trained to insert and remove IUDs, conduct pelvic examinations, prescribe oral contraceptives, and take cytology samples. However, uninformed providers can unwittingly spread false information about contraceptive methods and create artificial barriers to family planning.

All support systems need to be carefully maintained. The failure of any critical subsystem, such as logistics, supervision, training, or monitoring, can cause the overall system to fail.

The bright spots in the MOH program are the increases in CYPs and the successful pilot projects. The fact that the public sector met its CYP objectives in 1997 and became, for the first time, the primary provider of family planning services, is a major accomplishment (although reliability of the data make this conclusion somewhat tentative). That this accomplishment happened at a time when the IHSS cut back its services and in spite of significant deficiencies in the MOH service delivery system, is equally impressive.

There is clearly room to grow. The ENESF-96 and the team's observations show that many couples want to space or limit their childbearing but lack access to safe and effective means to do so. If contraceptives and family planning services could be made more widely available by the MOH, especially in rural areas, the impact on contraceptive prevalence, fertility, and maternal health would be large.

Unfortunately, the evaluation has identified significant deficiencies: in staff knowledge and skills, norms, equipment, the menu of contraceptives available, facilities, promotion, logistics, reporting, supervision, and management. All of these deficiencies are influenced by the low MOH commitment to family planning. In countries such as Indonesia where political commitment is strong, the family planning programs enjoy complete support from all sectors of society, receive the resources needed to provide quality services to practically everyone, and are very successful as a result. In Latin America, Colombia, Costa Rica, and El Salvador demonstrate that family planning programs can be successful in this region also.

For family planning to go forward, the team does not believe that a major political policy needs to be initiated. However, a national education campaign should be undertaken (the team suggests that this campaign take place outside of the MOH) to dispel myths and promote a greater understanding of reproductive risk. At the same time, quiet, solid field-level work will make major gains because of the large unsatisfied demand for family planning in the rural population. Significant advances could be accomplished by building on the successes of the two pilot projects and the maternity services of the better UPSs in the project area where USAID currently provides support, and by providing a large-scale training effort to all nurses and auxiliary nurses in the project area over a relatively compressed time frame.

8.3 Recommendations

USAID and the MOH should focus the project on manageable interventions at the UPS level.

Also, USAID should continue to work with the MOH to develop a clear policy on family planning and to overcome as many of the systemic constraints as possible.

- The first recommendation is to strengthen and expand reproductive health and family planning services in selected UPSs. The strategy would be to work directly with selected UPSs, those where there is genuine interest in providing family planning services. Perhaps this activity could be carried out in partnership with ASHONPLAFA and other Private Voluntary Organizations (PVO) that are providing FP/RH services in the project area. The postpartum/postabortion strategy that was tested works well and could be easily replicated in these UPSs. Training of auxiliary nurses in IUD insertions, pelvic examinations, dispensing of oral contraceptives and injectables, and cytology screening should be replicated in these UPSs.
- UNFPA is about to publish in Honduras a well-designed, well-tested, 80-hour modular training course for auxiliary nurses in reproductive health. This course could be an ideal vehicle to train a large cohort of auxiliary nurses in a short time. In order that the largest number of auxiliary nurses receive the training, the team recommends that when the course guide is published, the project begin an energetic campaign of promoting project-area candidates to take it, and that there be several venues for the courses to run concurrently: some by the MOH in the auxiliary training facility at the Thorax Hospital, and some by NGOs or other local training institutions. In this way, a "blitz" campaign on family planning could be provided to every frontline nurse and nurse auxiliary in the project area in a relatively short period of time—perhaps two years.
- The team recommends that the staff of the MIHC and the staff of the "super CESAMOs" called for in the Ministry's *Nueva Agenda en Salud* receive the UNFPA training early on. There is an obvious complementarity between the birthing centers and family planning that should be exploited. The expansion of reproductive health and family planning services through USAID funding of four PVOs provides further resources to expand services.
- The team notes for further study the PSP III evaluation, which recommends that PVOs, the MOH, and ASHONPLAFA form a partnership to expand services in rural areas.¹²
- USAID should continue to encourage the Government of Honduras to adopt population and family planning strategies that highlight the health, as well as the socioeconomic and demographic benefits of such activities. Although it is late in

¹² Jack Reynolds. *Midterm Evaluation of the Private Sector Population III Project in Honduras*. POPTECH Report No. 98-142-072, Chapter 7, August 1998.

the process, USAID should encourage the minister to include a statement in the *Nueva Agenda en Salud* that reproductive health and family planning services be defined as a basic right.

- USAID should continue working with the MOH to ensure that UPS providers are educated and trained in contraceptive technology and that all methods are available on demand.
- USAID should support efforts to incorporate family planning and contraceptive technology into the medical and nursing school curricula.
- USAID should continue working with the MOH to revise the norms and regulations governing family planning to bring them in line with international and national experience. Family Health International has developed a methodology to carry out such a review. Public and private participants in family planning activities should be involved in this effort. This activity should include publishing and distributing this document throughout the MOH network.
- USAID should work with the MOH to expand the availability of contraceptives in the country and to define which contraceptives should be provided at each level of care. The team strongly recommends that Depo-Provera be introduced as a method to be managed by auxiliary nurses. It should be available at the CESAR level.
- The MOH should make IUD services and Depo-Provera available in all places where childbirth takes place and complications from miscarriages are treated. Training in these subjects should be provided to all nurses and physicians who provide these services.
- USAID should provide support for surgical sterilization in MOH facilities where demand warrants it.
- USAID should support the development of community educational materials that clearly describe the benefits of reducing fertility, limiting and spacing births, and attacking common myths and misinformation on family planning.

9. RURAL WATER SUPPLY, SANITATION, AND ENVIRONMENTAL HEALTH

USAID support of rural water supply and sanitation (WSS) infrastructure began with the Rural WSS Program of 1980-1988, and continued as part of Health Sector Project II from 1989 through 1996. With Amendment 22, USAID discontinued investment in water supply and sanitation expansion, and has since supported technicians who provide education and technical assistance to communities to responsibly operate and maintain their own systems.

Support of rural WSS serving communities of between 200 and 2,000 inhabitants has been through the *Servicio Autónomo Nacional de Acueductos y Alcantarillados* (semiautonomous water-building entity of the MOH [SANAA]). Although initially HS-II funds for WSS infrastructure were targeted to three northern regions, the SANAA program has gradually expanded its coverage area to the entire country, and is supporting all existing water supply systems regardless of which entity originally funded the construction. In addition to funding projects through SANAA, approximately \$1 million of HS-II funds were spent by the Ministry of Health on small water systems, hand pumps, and latrines for communities of less than 200 inhabitants. USAID investments in WSS are summarized in Appendix G, Table 1.

USAID/Honduras has also played a leadership role in training technicians, developing educational materials, helping set priorities and standards, guiding decentralization, and establishing alliances with other organizations.

9.1 Findings

9.1.1 Achievements

The rural water supply program of HS-II has exceeded its goal of constructing 780 rural water systems. Between SANAA and the MOH, 966 water systems were constructed by December 1997, and SANAA anticipates completing an additional 100 systems by the end of 1998. Health Sector II's rural sanitation program has also exceeded its goal of constructing 57,000 new latrines. Between SANAA and the MOH, 88,955 latrines were constructed by December 1997, and it is anticipated that another 5,858 will be built in 1998.

The cost of the SANAA rural water supply and sanitation program has averaged between \$50 and \$100 per person for water supply, and \$31 per person for latrines.

9.1.2 Health Benefits

The water and sanitation projects of HS-II have focused on the sustainable health benefits of the program and have therefore emphasized appropriate technology, hygiene education, and community participation. For projects funded through SANAA, the *técnico de agua y*

saneamiento (technician in water and sanitation [TAS]) organizes the community participation in the project, monitors construction progress, educates the community on basic hygiene, and organizes and trains the initial Community Water Board (CWB). For projects funded through the MOH, the health promoter serves this role.

The evaluation team saw evidence of the effectiveness of the hygiene education efforts of the TASs, the MOH health promoters, and the other NGO health promoters in that (1) the majority of latrines inspected were in use and kept clean, (2) every community member interviewed showed that they understood the importance of using latrines, and (3) two families of low economic status that were visited had used their own resources to have new pits and slabs built when their latrines failed.

Recent health surveys indicate that child mortality is significantly lower (44 deaths per 1,000 children) in households with potable water taps on their property, than in households without potable water taps on their property (70 deaths per 1,000 children). The difference is entirely for children 1 month to 59 months old, where the majority of child deaths nationwide are attributed to diarrhea (see Appendix G, Table 2 and Figure 1). The risk of post-neonatal death is 1.9 times higher in homes without potable water taps on the premises than in those with taps, and the risk of death for children 1 to 4 years old is 2.3 times higher in homes without potable water taps on the premises than in those with taps.

The percentage of homes with potable water taps on the premises increased from 56 percent in 1987 to 69 percent in 1996. In rural areas, the water supply coverage increased from 41 percent to 53 percent (see Appendix G, Table 3). Nationwide, child mortality decreased from 60 to 48 percent per 1,000 live births and infant mortality decreased from 45 to 36 percent per 1,000 live births from the period 1986-90 to the period 1991-1995 (direct estimate). The majority of the gain was for children in the 1-month to 4-year-old range (see Appendix G, Table 4 and Figure 2). It is also in the 1-month to 59-month-old range where the greatest difference between rural and urban child mortality exists.

Prevalence of diarrhea in children is related to both water supply and sanitation infrastructure, increasing from 14.8 percent in homes with toilets and 16.8 percent in homes with water faucets on the premises, to 22.8 percent in homes without latrines or toilets, and 21.9 percent in homes without access to water faucets on or off their property (See Appendix G, Figures 3 and 4). The team interviewed several community members from communities where water systems and latrines had been installed within the last five years. Community members noted a noticeable decline in the incidence of diarrhea and an increase in general health after the water systems and latrines were in operation.

9.1.3 Expansion of Coverage and Partnerships With Other Donors

The goal set by the GOH and the Pan American Health Organization (PAHO) was to achieve 75 percent coverage of water supply and sanitation nationwide by the year 2000. SANAA has set an additional goal of reaching 75 percent coverage of *rural* water supply and sanitation by the year

2004. In 1996, 69.2 percent of the national population and 52.7 percent of the rural population had potable water taps on their property, while 73.8 percent of the population nationwide and 57.0 percent of the population in rural areas had either latrines or toilets. Approximately an additional 485 water systems¹³ and 70,000 latrines will need to be built in rural areas to meet this goal. To meet this objective in a period of six years, estimates have been prepared that indicate that a program of \$41 million would be required: \$26 million of external resources and \$15 million of locally generated resources.

1. How well has SANAA done in using its Project experience to develop partnerships with other donors to continue extending coverage?

Excellent. In 1998, the number of organizations that SANAA is cooperating with includes 10 international donors and 2 Honduran donors (see Appendix E, Table 6). SANAA has developed a reputation for efficiency and responsibility. However, some communities in need of water are in areas where donor funding is not focused. Therefore, such communities are left out. Furthermore, the potential for possible new donors is growing smaller, and existing donors are not showing signs of significantly increasing their contributions.

To continue extending coverage, SANAA has successfully solicited help from a variety of funding sources, including UNICEF, NGOs, and municipalities. Communities are also being asked to contribute more financially to new systems than in the past. There has been good teamwork in searching for ways to fund new water projects, with USAID, SANAA central directors, SANAA regional engineers, and TASs participating in these efforts. Typically, cooperative efforts involve SANAA technical and community education support, while the cooperating organization purchases and provides materials, and sometimes collaborates with community organization and education efforts.

9.1.4 Sustaining Existing Water Systems: The TOM Program

The majority of recent USAID support for rural WSS in Honduras has been for training and support of the new Training Specialist in Operations and Maintenance program (TOM). The TOM's primary purpose is to assist communities in properly operating, maintaining, and improving their water systems and watersheds. The TOM program began with a pilot program in 1995 and was expanded to a nationwide program in 1997. There are currently 72 trained TOMs employed by SANAA. Each TOM is assigned 50 to 60 water systems.

The TOM program's first task was to complete a field inventory of the status of all existing water systems in rural areas. This inventory was completed at the end of April 1998. The systems were classified into four categories, based on the level of effort required to bring them to a well-

¹³ Estimated based on increasing coverage from 69.2 percent to 75 percent of the 1997 population estimate of 5.8 million, and assuming that half the population growth will occur in rural areas, and that there will be an average of 350 beneficiaries per new rural water system.

functioning level. Category "A" systems meet all criteria for a well-functioning system. Category "B" systems can be improved with community resources. Category "C" systems require some financial investment within the reach of the community, and Category "D" systems require a major investment. The information gathered as of March 1998 when the inventory was approximately 85 percent complete is summarized in Table 5, Appendix G.

According to the survey, approximately 9 percent of rural water systems are in optimum condition, properly operated and maintained by their communities, while 85 percent of the systems could be raised to optimum conditions with community efforts; only 6 percent require major investments. Typical problems are unorganized or nonexistent CWBs, low tariffs, communities not chlorinating, and paternalism (a culture of dependency).

Well-functioning CWBs exist only for systems less than four years old or where TOMs have recently reactivated and trained them.

In general, the design and construction quality of existing water systems visited as part of this evaluation were good. The most common problems found were poor drainage of overflows from tanks or from individual washbasins, new homes constructed above where reserve tanks are located, and flows inadequate to meet community needs during normally dry summers. A contributing factor to the ability of actual flows to meet demands is that few rural water systems have water meters, and there is evidence that people are not conscientious about water conservation.

The TOMs interviewed during this evaluation were well motivated, well trained, and clearly understood their role and goals. Each TOM was well equipped for performing his duties, with a motorcycle, helmet, and access to educational materials and chlorine measuring kits. The SANAA offices had new working computers with a comprehensive database that could sort or search with a variety of parameters.

The greatest setback to the TOM program has been that for much of 1997 and the first three months of 1998, USAID funds for per diem and gasoline were not available for TOMs to visit distant communities. The result was that TOMs worked only approximately 65 percent of their potential. Also, the TOMs spent a significant portion of their field time (perhaps 50 percent) conducting the inventory of existing systems. The inventory was 99 percent complete by the end of April 1998; therefore, the TOMs have not dedicated as much time as they could to the rest of their work. The TOMs in some regions did find creative ways to continue to work without per diem, sometimes getting communities to provide a place to sleep and even money for gasoline, or by working out of decentralized locations. If the program is to be made sustainable over the mid- to long term, similar alternatives, other than donor financing, will have to be developed to cover per diem costs.

- 2. What effect has the creation of *técnicos de agua y saneamiento* (TAS) and the *técnicos de operación y mantenimiento* (TOM) had on the efficiency and effectiveness of SANAA's rural programs? Has SANAA taken on this program as their own?**

Health education and community involvement are key elements for a rural water sanitation program to have a sustainable health impact. The TAS program has done well in community hygiene education and in preparing communities and Community Water Boards to take responsibility for their systems. The TOM program has begun to have an impact by reactivating and training Community Water Boards, and helping them solve their operational and administrative problems. In 1998, the impacts of the program, in terms of increasing the percentage of systems in "A" condition by the end of the year, promises to be higher than that achieved in 1997. SANAA has definitely adopted the TAS program as their own, and as the success of the TOM program becomes known, buy-in of the program has spread across the organization and to higher levels of government. The TOM program is not yet ready to stand on its own, but it is moving in that direction.

3. What further actions need to be taken to strengthen the program?

Suggestions for improving the effectiveness of the TOM program include the following:

- To increase institutional support for the work of TOMs, a workshop or conference for TOM supervisors would be helpful. Following are primary areas of concern:
 - Supervisor enthusiasm for TOM work needs to be increased, and
 - Supervisors need skills, such as Total Quality Management techniques, to allow TOMs to implement their ideas to improve the effectiveness of their work, for example, by increasing weekend work and decreasing reliance on per diem.
- USAID and SANAA should work together to find ways to decrease the reliance of TOMs on per diem. Ideally, Total Quality Management techniques, allowing TOMs and their supervisors to give suggestions, could be applied at a regional level. Each region should be asked to agree on a plan of action for dealing with potential delayed or reduced per diem. Examples of solutions that have been suggested by SANAA TOMs and their supervisors are as follows:
 - Locate TOMs permanently in the field,
 - Have SANAA provide gasoline but not per diem for short trips, and
 - Encourage communities or municipalities to provide places for TOMs to sleep.
- Because a significant number of systems have problems meeting water needs in the summer, and to ensure that communities are making progress toward self-sufficiency rather than focusing on bringing a certain number of systems to the "A"

level initially, a different set of goals may be a more appropriate measure of the success of the TOMs:

- Year 1: 75 percent of CWBs functioning well, regularly chlorinating, and charging a tariff high enough to pay chlorine costs.
 - Year 2: 90 percent of CWBs meet goals of Year 1; 75 percent of CWBs have at least one member who has attended a training course; are charging a tariff high enough to pay chlorine, operator, and minor maintenance costs; and have opened a bank account.
 - Year 3: 90 percent of CWBs meet goals of Year 2; 75 percent of CWBs have established a plan to protect their watersheds and have a fully adequate tariff.
- USAID or SANAA should consider sponsoring annual regional or area-wide conferences for CWBs that would include capacity building, targetsetting, and rewards for communities that have achieved significant levels of self-reliance and others for those who have consistently chlorinated their systems for certain periods of time.
 - Increased communication between SANAA and the MOH would be helpful to increase the health impacts of water supply and sanitation systems. For example, SANAA should use high diarrheal incidence, high child mortality, and poor water quality data of the MOH to determine high-priority systems for TOM work. The MOH and SANAA could coordinate training of CWBs by area to be scheduled at the same time.

9.1.5 Participation of Communities and Women and Self-Reliance

Community members have the ability to pay tariffs that are high enough to establish a bank account and pay for most repair and improvement needs. None of the individual community members interviewed during this evaluation stated an inability to pay 10 lempiras (\$0.75) per month, which is enough to fund an operator, chlorine, routine repairs, and savings in most communities.

Where CWBs are organized, the water tariff is reasonable and the funds are well-managed; communities have self-financed significant system repairs and have built up significant reserve funds. Also, CWB presidents in these communities showed a strong understanding that communities must take responsibility for their own systems and had a strong interest in raising their rates to increase savings. The most common concern raised by CWBs was that several had not yet obtained legal incorporation.

4. How effective has SANAA been in training villagers in the operation and maintenance of the water systems?

Where CWBs have been trained by SANAA, they have demonstrated their ability not only to operate and maintain their water systems, but also to responsibly manage their finances.

SANAA could be doing more to encourage participation of women on CWBs. Although some communities were seen to have women as treasurers or secretaries of the CWB, no advances have been made in including women on CWBs since the 1995 HS-II mid-term evaluation, and some women who have the potential to be leaders demonstrated hesitancy in exercising leadership on CWBs. SANAA could be devoting more attention to this area.

9.1.6 Protection of Watersheds

The TOMs, TASs, Honduras Forestry Development Service (CODHEFOR), and other development organizations have succeeded in raising the level of awareness of the need to protect watersheds and in establishing legal mechanisms for protecting watersheds. Community members understood the importance of protecting forests in their watersheds and knew which landowners were cooperating with protecting forested area and which were not. In addition, community members were looking into options such as purchasing land from those who did not want to cooperate in forest protection. SANAA has begun an inventory of water systems with protected watersheds, which indicates that a significant area of watersheds, 167,000 hectares or approximately 350,000 acres, are legally protected.

9.1.7 Contributions of the MOH

Water quality monitoring is currently done by MOH health promoters. Where high levels of diarrhea are reported or when new sources of water for community water systems are being considered, a health promoter takes a water sample to a MOH laboratory. According to one interview, approximately 40 percent of the water samples tested have high levels of fecal coliforms; these water samples often come from community water systems that are not being chlorinated. Incidence rates of diarrhea are especially high in the winter rainy season.

Cooperation between SANAA and the MOH is limited to invitations to MOH promoters by TOMs and TASs to teach basic hygiene in courses for CWBs, use of SANAA CWB manuals by MOH promoters, and requests for MOH water sampling to help convince communities to chlorinate. No other cooperation between SANAA and the MOH was found, and neither diarrheal nor child mortality data are being used by SANAA to prioritize where to focus efforts.

9.1.8 The TSA Program

With the assistance of USAID, the MOH is embarking on a program to consolidate the activities of its diverse rural health outreach workers, so that each worker's role encompasses a full agenda of environmental health issues. The newly-defined *Técnico de Salud Ambiental* (TSA) will be responsible for all aspects of environmental health. A TSA pilot program has begun in health Region II. Twenty-nine TSAs graduated from a 12-week training course in September 1997. A second course to train an additional 35 TSAs will be completed in October 1998. The plan is that once all of the TSAs have been trained, the region will begin to function in the new mode. The effectiveness of the model can be judged when it is up and fully running.

5. In light of the fact that USAID funds for construction of additional water systems and latrines are no longer available, how should USAID/Honduras continue to support the water and sanitation sector given that it is so crucial to improving health?

The health benefits of a WSS program such as this one, which combines potable water, latrine, and health education, are dramatic, as described in the text. USAID is increasingly aiming to measure its accomplishments with indicators. The fact that Honduras has not yet reached the point where incremental costs of serving new rural areas with water becomes prohibitively high, and that the partnerships made with other donors are not filling the need for new water systems at a rate likely to meet coverage goals, call into question USAID's decision not to fund additional water system construction.

The cost of the SANAA rural water supply and sanitation program has averaged between \$50 and \$100 per person, including water supply, latrine, health education, and training of CWBs. USAID could consider continuing to support rural water supply infrastructure in Honduras, if at a lower level than in the past, until 75 percent water supply coverage of the rural area has been reached, at which point the incremental cost of serving new areas with water may not justify further investment. The coverage goal for latrines should be higher than that for water, but the Honduran FHIS will most likely continue its campaign to serve the country with latrines and external donor help is not as crucial as for water.

If USAID does not increase funding for infrastructure, it should continue to support the TOM program and to provide leadership, including searching for other funding sources.

9.2 Conclusions

- (1) The hygiene education and watershed protection campaigns of SANAA, the MOH, and other organizations have been highly successful.
- (2) It is unlikely that GOH and USAID's goal of 75 percent nationwide coverage of water supply systems will be met unless construction funds for water systems are significantly higher in 1999 and 2000 than in 1997 and 1998. The approximate budget requirement to achieve coverage in a six-year campaign is \$26 million in external resources, \$7.7 million in

counterpart resources, and \$7.75 million in community resources.

- (3) TOMs play a vital role in the short-term and long-term sustainability of water systems, in democracy building, and in fostering community self-reliance and administrative capacity.
- (4) The TOM and TAS programs are well planned and the technicians are well motivated and well trained in all appropriate areas.
- (5) It is too early to evaluate the TSA program, but it is important that it proceed on schedule and with appropriate follow-up before more trained TSAs give up on the program.

9.3 Recommendations

- Given the low per-capita cost of water supply and latrine systems in comparison to the high health benefits gained and the need for increased investment to meet the 75 percent nationwide coverage target for the year 2000, USAID should consider continuing to invest in water supply system infrastructure until 75 percent of the rural area is served. To achieve 75 percent coverage in a period of six years would require approximately \$26 million in external resources and \$15 million in local resources.
- For SANAA to build sustainability to extend new service and maintain existing systems, it should begin a campaign of outreach to major donors independent of USAID.
- To improve the effectiveness of the TOM program, USAID should work with SANAA to build incentives for communities that responsibly operate and maintain their systems, to increase institutional support for the work of TOMs, to develop targets that more closely

monitor TOM progress, to use health data to set TOM priorities, to encourage more women to participate in CWBs, and to find ways to decrease the reliance on per diems.

10. SUMMARY FINDING AND RECOMMENDATIONS

As part of its briefings with the Minister of Health and the USAID director, the evaluation team presented summary findings, conclusions, and recommendations.

10.1 Overall Findings

The Minister of Health is about to publish a “*Nueva Agenda en Salud*” with a substantially different vision of the role and functions of the MOH. At the same time, under the impetus of World Bank and Inter-American Development Bank financing, the MOH is about to begin a process of significant reorganization. The evaluation highlights that one important change is that of “organizational culture”: to more strategic planning, more managerial efficiency, and more quality service. At the same time, a number of MOH systems were seen to require improvements, including logistics, management information, and human resources management.

ACCESO, the MOH decentralization effort, is beginning to show some results in terms of higher municipal and community involvement, but the results are preliminary. Locally prepared Annual Operating Plans are a worthwhile process, but the absence of timely budgetary support has hindered the effectiveness of the process. Some improvements in local area administrative capacity are being reported.

Quality of care at the various levels of the MOH is not homogeneous. The CESARs are frequently closed, and the quality of care at these facilities generally reflects the low priority assigned them by the MOH. Quality of care at the CESAMOs is better than at the CESARs but is still limited, and the quality of the CESAMOs themselves is not consistent. The quality of hospital care in the project area is erratic, from reasonably good to poor. The referral system is overused and does not adequately distinguish treatment between these levels of service: significant cost inefficiencies were seen in people being attended at the most expensive level when they could have been attended to at much less cost farther down the service network.

The quality and effectiveness of specific health programs varies. Family planning services are still the most rudimentary. Child survival activities have been slow over the last half year or more in integrating the new AIEPI focus. Oral rehydration therapy (ORT) is well understood, and there is widespread awareness of the benefits of oral rehydration salts (ORS). Pneumonia and ARI care is still weak: at the UPS level, manuals were unavailable, children were referred unnecessarily, drugs were in short supply, and hospital treatment was seen to be less than adequate. Obstetric care varies greatly, from Maternal-Infant Health Clinics that were providing good patient care to one hospital that was not. Current MOH protocols do not allow for training or support to TBAs or auxiliary nurses in the treatment of obstetric emergencies such as hemorrhaging.

Two programs are well run and are having significant success. One is the vaccination program, exemplified by the fact that every rural auxiliary nurse wanted to talk about vaccination coverage.

The results are the very high levels of vaccination coverage that Honduras has achieved. The other is the rural water program, which has demonstrated a significant and quantified reduction in child mortality in households with potable water taps, as rural coverage of potable water has risen to 53 percent.

The evaluation team was impressed with several "star performers" in the MOH network. The team was impressed with the cleanliness and quality of care of several rural clinics, hospitals, and MOH Maternal-Infant Health Clinics, as well as the overall patient care in several CESAMOs visited. Project staff report on similar "bright spots" in areas that the team was not able to visit.

The MOH/USAID administrative mechanism, the Project Coordination Unit, has proven unable to facilitate the delivery of project funds expeditiously through the larger GOH bureaucracy. Some of the funds are not being used in highly productive ways: 37 percent of the local cost budget is being used for travel costs with uncertain pay-off in terms of improved services. Two principal project inputs are training and supervision, but little effective training is taking place and the word "training" is being used to describe what are mostly routine supervisory visits. The training that is taking place frequently receives little evaluation and follow-up.

10.2 Overall Conclusions

The HS-II Project is underperforming with regard to its mandate, largely because of administrative obstacles. The project is well conceived and well managed and has recently begun a number of innovative quality improvements, but dramatic improvements in the project will not happen until more money gets out to the rural areas in a timely fashion.

The current MOH model was designed to provide curative services based on a doctor-driven, medical model. Slow improvements in rural health indices perhaps suggest that the MOH will need to change its model to give even more importance to a rural community participation, preventive public health model. The decentralization effort of previous governments, and the "*Nueva Agenda*" of the current government have a lot to recommend themselves, but the latter initiative could be more effective if it addresses a number of the issues highlighted in this evaluation.

Key among such initiatives is meaningful cost recovery and quality of care. In this regard, the importance of the service providers at the lowest level of the MOH system—the TBAs, auxiliary nurses, and graduate nurses—needs to be emphasized and institutionalized.

The HS-II project has been working on areas that need improvement in each of the program technical sectors. Work in these areas should continue.

Family planning has yet to become a major MOH priority and needs to become one.

Improvements in logistics and MIS will require a major investment of political will, although not

necessarily many resources.

Overall, public health gains in Honduras have been as impressive as any in Latin America. Such gains have probably come about through the interaction of four factors:

- (1) High vaccination coverage,
- (2) Good quality water systems,
- (3) Widespread use of ORS/ORT, and
- (4) The proliferation of the health service network.

Increased use of family planning may also play a role. Nevertheless, dramatic improvements in health may have reached a plateau and may not increase much further until systemic changes take place in the Ministry of Health's conceptual model, many elements of which are already articulated in the *Nueva Agenda en Salud*.

10.3 Overall Recommendations and Cross-Cutting Issues

Recommendations were drafted for the Ministry of Health and to USAID. Many will require a change at the policy level, and vigorous follow-up. They are as follows:

Key Recommendations within the Jurisdiction of the Ministry of Health

- To strengthen the *Nueva Agenda en Salud's* reorganization of health delivery into levels of service based on complexity of attention, it was recommended that the MOH referral system be significantly reorganized and "toughened," emphasizing that services be delivered at the lowest possible level. CESARs and CESAMOs should basically continue to provide primary health care, community promotion and education, and basic ambulatory care. Hospitals should basically provide secondary and tertiary care and participate only minimally in primary health care and ambulatory care activities.
- To this end, more vigorous cost-recovery initiatives should be undertaken at the level of the CESARs, CESAMOs, and hospitals. To foster rational use of MOH resources, charges for services should be least at the lowest level of service, higher at the next level of service, and highest at the tertiary or hospital level.
- Management skills, not only medical ones, are needed at all levels of the MOH. Simplified management training should be provided to auxiliary and graduate nurses and more complex management training should be provided to area administrators and physicians with management responsibilities.

- In recognition of their key contribution as frontline providers, the cadre of auxiliary nurses and professional nurses should be nurtured, supervised, and better trained.
- A "culture" of quality service should be instilled throughout the MOH and especially in the CESARs and CESAMOs. The HS-II project has already begun to work on this issue with MOH regional and national staff.
- The integrated management of the child in the community and at the institutional level (AIN/AIEPI) should become avowed MOH policy, and all UPS staff should receive intensive training in the subject in a short period of time—perhaps over the next two years.
- A comprehensive program of safe motherhood should be developed to reach pregnant women in rural areas. Part of such a strategy would involve expanding the number of Maternity Clinics and Maternal-Infant Health Clinics to increase the number of births attended by trained personnel and to foster the treatment of obstetric emergencies at the new "super CESAMOs."
- Family planning activities should be revitalized at all levels in the MOH, especially at the service-delivery level, and an energetic training program should be carried out for all service providers within a defined period of time.
- Local initiatives should be recognized and supported by the MOH. The MOH should also be more proactive in seeking meaningful participation from the municipalities and in fostering local initiatives.
- The MOH information system is in need of major overhaul and excellent first steps have been taken by SIGAF to begin the process. A "culture" of data analysis and data for decision making should be developed as part of this process.
- The MOH logistics system is in need of substantial restructuring. Recommendations are given in Appendix D on how to start the process.

Key Recommendations within the Jurisdiction of USAID

- The project should find flexible ways to support the well-run Maternal-Infant Health Clinics and to replicate them wherever possible. It should also find ways to finance excellent local initiatives.
- The team endorses USAID's initiative to hire an independent financial contractor to exercise more agility in disbursing funds in the HS-II project. The project should also direct resources to upgrading MOH administrative and managerial skills.

- Training activities need to be revitalized and should focus on a rapid upgrading in the skills of large numbers of auxiliary nurses and graduate nurses. USAID should consider contracting local NGOs or training firms so that the training program can be accomplished on numerous different subjects for all UPS staff within a fairly limited period of time—perhaps as little as two years.
- A national education campaign should be undertaken to convey the implications of reproductive risk and to dispel some of the continuing myths about family planning. In like fashion, the team recommends that this campaign be run outside the MOH.
- The project should continue providing technical assistance to regional hospitals to improve the quality of care provided to patients who are referred there.
- The project should continue recently initiated activities addressed to Total Quality Care. The Mission should consider inviting a CA specialized in Total Quality Care to establish a full-time presence in the country.
- The team endorses the pilot study of the referral system being undertaken and encourages the project to direct additional resources to remedy the referral system's weaknesses.
- The team endorses USAID's efforts to align itself with the World Bank and continue the push for more meaningful costs and user charges. Moreover, the team suggests energetic pursuit of the dialogue already underway between the MOH, USAID, and multilateral banks regarding the need to move the current MOH model more into a community-participation, nurse-intensive, preventive-health model.
- Over the medium term, USAID should begin to push the creation of an intermediate nursing career track, to produce more licensed nurses in a shorter period of time, given the serious shortage of nurses in the country. In like fashion, it is probable that the current 10-month training curriculum for auxiliary nurses should be extended to provide them with more and better health skills on graduation.

One of the questions put to the evaluation team in the Scope of Work requested that the team "advise the Mission on what it should do over the next five years to increase rural contraceptive prevalence by at least 10 percentage points." The team believes that question has been answered in the context of these recommendations. If these policy changes can be implemented and the strategies undertaken, we believe there is every likelihood that rural contraceptive prevalence will go up by the desired amount in the next five years, and that significant public health gains will come about as a result.

APPENDICES

APPENDIX A

Scope of Work

I. PROJECTS TO BE EVALUATED

Two projects will be evaluated concurrently. They are the Health Sector II Project (522-0216) and the Private Sector Population III Project (522-0389).

The Health Sector II Project was authorized in May, 1988 and had an original Project Assistance Completion Date (PACD) of October 1, 1995. In the spring of 1995, the PACD was extended to September 30, 1996, through a non-funded Project Agreement Amendment. A mid-term evaluation of the Project was conducted between April 27 and June 4, 1995. Subsequently, the Project was amended on July 31, 1996, effectively extending the Project for three more years and increasing USAID's authorized contribution from \$57.3 million to \$68.4 million (PROAG Amendment 22). The current PACD of the Project is September 30, 1999.

The Private Sector Population III Project was authorized on September 27, 1995 with a PACD of December 31, 2000. The authorized USAID contribution is \$11.2 million. An evaluation of the predecessor project (Private Sector Population II Project), which was authorized in July, 1989, was conducted between October 9 and November 18, 1994.

II. PURPOSE OF THE EVALUATION

This evaluation will assist USAID/Honduras, the Government of Honduras and the Asociación Hondureña de Planificación de Familia (ASHONPLAFA), the International Planned Parenthood Federation affiliate in Honduras, in making adjustments, if needed, to the on-going projects and provide direction for the development of follow-on activities. The evaluation will:

- Assess in what ways and to what extent the projects are contributing to USAID/Honduras' strategic objective of "Improved Family Health."
- Identify implementation constraints of the projects and propose recommendations for the remainder of the life of the projects in terms of priorities, strategies and definition of outputs and targets.
- In light of USAID/Honduras' new Strategic Plan for FY 1998-2003, identify future activities which will effectively contribute to the Mission's new health objective of "Sustainable Improvements in Family Health."

The Mission will need the results of the evaluation by July 1, 1998.

The evaluation of the Health Sector II Project will not include an evaluation of the HIV/AIDS component. This component was evaluated between August 12 and September 11, 1996. The results of the evaluation provided guidance to the Mission in developing a private sector HIV/AIDS prevention project, which would be initiated after the world-wide AIDSCAP project ended in 1997. In August, 1997, the local AIDSCAP project terminated. On February 17, 1998, a Cooperative Agreement was awarded to the Fundación Fomento en Salud (FFS) to become a National Center for AIDS Awareness and Prevention and to promote STD/HIV prevention and STD treatment throughout the country. FFS will sign sub-agreements with qualified local Honduran NGOs in April, 1998 to carry out these activities. Thus, since the project with FFS is just beginning, it would be premature to evaluate it now.

III. BACKGROUND

A. Health Sector II Project

As mentioned above, the Project was amended on July 31, 1996, extending the Project to September 30, 1999. The project extension was designed to further USAID's and the Ministry of Health's long-term effort to establish a "Sustainable and Effective Public Primary Health Care System" nationally by focusing technical assistance and resources on the most salient supply-side problems—both administrative and technical—which hinder further progress in reducing maternal and infant mortality in rural areas. The development hypothesis underlying the extension was that "a sustainable and effective public primary health care system" would increase the use of selected child survival interventions, of reproductive health and family planning services, and of STD/AIDS prevention practices. Use of these essential interventions in turn would result in "improved family health."

The extension calls for a four-pronged approach:

1. Improved delivery of child survival, reproductive health and family planning services in nine focus Health Areas, which have approximately 226 clinics and hospitals and serve approximately 25 percent of the nation's population.
2. National systems and policies strengthened in 15 demonstration Health Areas to improve decentralized financial management and local cost recovery, and to improve supervision, management and health information systems, health education and the vehicle and equipment supply and maintenance systems.
3. Improved delivery of STD/AIDS prevention and STD treatment programs among high-risk target groups in San Pedro Sula, Tegucigalpa, La Ceiba and Comayagua.
4. Maintenance of highly effective national programs by providing limited support to such activities as the expanded program of immunization, oral rehydration therapy and environmental health.

During the Annual Results Review (ARR) in November, 1997 when progress of the Mission's health and population projects were reviewed, it was reported that, of the 52 indicators for the Health Sector II Project, one was exceeded, 11 were met, and 20 fell short. The rest were either ongoing or not yet implemented. Some of the problems with the Project were due to the fact that project implementation in 1997 was delayed by 5 months due to the Annual Work Plan approval process. In addition, 4 months were spent transferring the signature authority from the outgoing to the incoming director of the Project Coordination Unit (PCU), which disburses Project funds. As a result, the Project had to rely on a relatively slow mechanism for disbursing the local cost budget. Training in the 9 focus Health Areas was also delayed until September, 1997.

Administrative, financial and technical constraints to improving the public primary health care system have also been well documented in other reports, which will be made available to the evaluation team. Given the limited resources and short time available under the Project extension to address these constraints, it is clear that a substantial new program in health reform, currently planned to coincide with a new World Bank sector loan and begin in FY 1999, will be required.

B. Private Sector Population III Project

The Private Sector Population III Project will contribute to the achievement of the Mission's strategic objective of "Improved Family Health" by helping to reduce Honduras' total fertility rate (TFR) from 4.7 in 1995 to 4.2 by 2001. This will be done by increasing the use of reproductive health services, including family planning services, among Honduran women of fertile age. , efforts funded under the Project will increase ASHONPLAFA's financial self-sufficiency from 31 percent in 1995 to 63 percent in the year 2000.

Project-funded activities will lead to six intermediate results:

1. Improved delivery of medical and clinical services.
2. Accessible, high-quality, self-financing social marketing program.
3. Focused, high-quality community-based distribution program.
4. Effective information, education, and communication strategy.
5. Effective support systems at the headquarters and in the regional offices.
6. Increased PVO participation in reproductive health.

ASHONPLAFA has received a substantial amount of technical assistance from USAID-supported Cooperating Agencies (CA) in order to achieve these results. Because of their number and importance, CA trip reports will be made available to the evaluation team after they arrive in Honduras.

The technical assistance appears to be paying off. For example, the self-sufficiency goal of 48 percent that ASHONPLAFA set for 1997 was achieved. This was due to down-sizing, the implementation of cost controls, adjustments in prices of services and products to clients, and the diversification of services. In addition, the institutionalization of Quality Assurance (QA) in ASHONPLAFA has been a great success. Examples of how QA has improved ASHONPLAFA's services include reductions in patient waiting time for services, improved flow of patients through the clinics, the availability of services in the afternoons and more comfortable waiting areas.

Perhaps the greatest accomplishment seen thus far under the Project has been the change in the institutional culture of ASHONPLAFA. ASHONPLAFA has made significant progress in changing its organizational culture from a social, non-profit orientation to a business-oriented one. As a result, ASHONPLAFA as an institution, now thinks in terms of self-sufficiency, rather than dependency on external donors, and is managing for results.

The most unsettling problem that ASHONPLAFA has experienced since 1996 is its inability to maintain Couple-Years-of-Protection (CYP) achievement at 1995 levels. For example, only 76 percent of this goal was met in 1997. An examination of the achievements of ASHONPLAFA's three service delivery programs reveals that the Medical/Clinical program achieved 73 percent of its goal, while the Social Marketing program achieved only 53 percent of its goal. In contrast, the Community Services program achieved 96 percent of its goal.

A decision was made late in 1996 that ASHONPLAFA's principal goal is to reach self-sufficiency in the shortest time possible without a decrease in the quality of services that the organization provides. This meant that ASHONPLAFA's plans to expand services in an attempt to increase CYPs were put on the back burner. Thus, it appears that the only way ASHONPLAFA will be able to increase CYP achievement is by providing family planning services to poor Hondurans, which will be subsidized by the profits earned from ASHONPLAFA's diversified, non-family planning services. It should be noted that ASHONPLAFA is attracting a clientele which is capable of paying full price for non-family planning services. However, some of these services are not yet profitable.

During the Annual Results Review (ARR) in November, 1997, it was reported that, of the 46 indicators for the Private Sector Population III Project, two were exceeded, 36 were met, and eight fell short. Of those which fell short, three were related to CYP production and two to national campaigns which are designed to establish ASHONPLAFA as the major provider of family planning and reproductive health services for middle class women and men.

Given that self-sufficiency is now ASHONPLAFA's principal goal, other strategies to increase contraceptive prevalence and reduce fertility in the country will need to be explored, and/or be postponed until after financial self-sufficiency has been achieved.

C. Health Indicators

Family health in Honduras has improved significantly according to the 1996 national Epidemiology and Family Health Survey (EFHS). Infant mortality declined from 50 deaths per 1,000 live births in 1989 to 42 in 1993 (indirect estimate). This may be due in part to an increasing proportion of women who seek prenatal care and give birth in medical facilities, and to longer birth intervals. Although the infant mortality rate estimated for 1993 is half of that estimated for 1976, Honduras' current rate remains high in comparison with those of some other countries in the region, such as Costa Rica, which has a rate of 15 per 1,000 live births.

Fertility declined from 5.2 lifetime births per woman during 1989-91 to 4.9 during 1993-95, compared to the regional average of 4.3. Most of the decline in fertility is attributable to an increase in contraceptive use, from 40.6 percent in 1987 to 50.0 percent in 1996.

In 1996, 69 percent of households obtained their drinking water from faucets on the premises, compared to 56 percent in 1991/92. The proportion of households with a flush toilet or a latrine increased from 60 percent to 74 percent in the same time period.

Exclusive breastfeeding (2 to 3.99 months) increased from 23.2 percent in 1991/92 to 29.5 percent in 1996.

Despite these gains, important differentials exist for almost all indicators. For example, the total fertility rate (TFR) estimated for Tegucigalpa and San Pedro Sula, the two most important urban centers of the country, is 3.1 children per woman. In rural areas, the rate is 6.3 children per woman. Lower levels of education are strongly correlated with higher fertility. The TFR for women with no formal education is 7.1 children compared to 2.9 children among women with at least 7 years of education.

Contraceptive use varies by residence, ranging from a high of 62 percent in urban areas to a low of 40 percent in rural areas. Since the beginning of the current decade, the rate of increase in contraceptive use has declined and, in urban areas, contraceptive use has not changed significantly since 1987.

Based on direct estimates of infant mortality, neonatal mortality now accounts for more than half of all infant mortality. Nevertheless, postneonatal and child mortality remain relatively high among children of rural women and less educated women, in part due to the higher fertility among these women and to childhood malnutrition as an underlying risk factor.

According to the 1996 survey data, birth trauma, prematurity and congenital malformation taken together were the principal cause of under-five mortality (31 percent), followed by acute respiratory infections (24 percent) and diarrhea (21 percent).

The percentage of women aged 15-49 who have ever had a pap smear ranges from a high of 74 percent among women living in Tegucigalpa or San Pedro Sula to a low of 35 percent among women living in rural areas. The only indicator on which rural women fare better than urban women is the number of doses of tetanus toxoid received during their lifetime.

Differentials also exist with regard to health service utilization. For example, while approximately 89 percent of urban women receive prenatal care, only 80 percent of rural women receive this care. Similarly, only 32 percent of rural women give birth in a medical facility compared to 77 percent of women living in small towns and 91 percent of women living in Tegucigalpa or San Pedro Sula.

D. Conclusion

Honduras has made impressive progress in improving family health. A comparative study conducted by the Centers for Disease Control and Prevention (CDC) concluded that Honduras was doing substantially better than its neighbors on achieving high coverage of primary health care services despite its low socioeconomic status. However, a great deal remains to be done with respect to reproductive health, family planning, infant and child mortality.

For example, the decrease in fertility mentioned above is by any standard rather modest, and it occurred principally in urban areas. The potential for further declines in fertility among urban, better educated women is very limited, as can be seen by comparing current fertility to desired fertility. There is, however, a large gap between actual family size and ideal family size in rural areas (6.5 vs. 3.3), suggesting that rural women may be receptive to using contraception, either for spacing their births or for stopping childbearing once a certain family size is reached. The main thing that is lacking in rural Honduras is adequate access to high-quality family planning services, including surgical contraception. Enhanced family planning services need to be provided by the Ministry of Health throughout its health care system, rural areas, where ASHONPLAFA is unable to provide full and adequate coverage, even though it is in rural areas where maternal mortality and total fertility rates are highest.

Because neonatal mortality now accounts for more than half of all infant mortality, efforts will have to concentrate more on reducing the perinatal causes of these deaths, including the promotion of prenatal care, maternal dietary supplementation, safe delivery, and better care of the newborn. Additional efforts are also needed to improve the treatment of pneumonia and the use of oral rehydration therapy.

IV. STRATEGIC PLAN FOR FAMILY HEALTH

Poor health and rapid population growth are critical roadblocks to the ability of Honduras to achieve sustainable development. Beginning with FY 1998, USAID/Honduras has incorporated

the concept of "sustainable" into its current objective of "improved family health" to place much greater emphasis on strengthening financial, institutional and managerial systems in order to maintain or continue improving reproductive health, child survival and food security despite declining resources. Thus, the Mission has chosen the following as its SO3 statement:

"Sustainable Improvements in Family Health"

Specific examples of sustainability we hope to achieve by 2003 are: that ASHONPLAFA will be 85 percent self-financing; the Ministry of Health will be paying an increasing proportion of its recurrent costs including its contraceptive needs; a non-governmental Honduran Center for AIDS Awareness and Prevention will be fully established; and direct food aid distribution will decline in the rural west, as caloric inadequacy and indigence are gradually reduced. At the same time, maternal and infant mortality, fertility, and childhood nutrition will continue to decline while HIV seroprevalence stabilizes. Use of the key services that contribute to these achievements will be maintained or increased.

The SO3 results framework and performance indicators will be presented to the evaluation team after their arrival in country.

V. STATEMENT OF WORK

The evaluation team will focus on answering the following questions. For all of the tasks specified, the evaluators will need to present:

- Their findings (i.e., the "evidence");
- Their conclusions (i.e., their interpretation of the evidence and their best judgment based on this interpretation);
- Their recommendations based on their judgments.

The evaluators must distinguish clearly between their findings, conclusions (that is, their interpretations and judgments), recommendations, and lessons learned.

A. Health Sector II Project

A.1 Family Planning

- Evaluate what we have accomplished to date in achieving PROAG Amendment 22 family planning results indicators, especially the efforts to improve the postpartum/postabortion family planning activities in the Hospital Escuela and other Ministry of Health hospitals; the auxiliary nurses reproductive health pilot project (including synthesizing findings of reports from the Population Council); and the family planning program of the Social Security Institute (IHSS).

- To what extent is the Ministry of Health committed to family planning? How can family planning activities be expanded and strengthened in the Ministry of Health? What would be an acceptable MOH family planning strategy? What project assistance should be provided in this area?

- Besides the unavailability of services, "institutional barriers," such as age and parity requirements, exist in the Ministry of Health which prevent more women from receiving a tubal ligation. What needs to be done to eliminate these "barriers" in order that surgical contraception be available upon demand? Would the Ministry of Health have the capacity to meet this demand if the "barriers" were eliminated? If not, how can USAID/Honduras help the Ministry of Health in increasing its capacity to provide surgical contraceptive services?

- With Project assistance, the Hospital Escuela in Tegucigalpa has dramatically increased the number of tubal ligations it performs and the number of IUDs it inserts. What actions (training, equipment, renovation, logistics) would be needed to replicate this model in other Ministry hospitals and Maternal/Child Health clinics in the country? In terms of CYP production and the potential for reducing rural fertility (as measured by survey data), which hospitals and MCH clinics should receive priority attention?

- How can the Ministry of Health supply system be strengthened in order to insure that clinics and hospitals always have an adequate supply of contraceptives and IUD insertion kits on hand? Similarly, how can the reporting of balances on hand of family planning commodities be improved in order that the procurement of additional supplies does not result in an under- or oversupply situation?

- How could Ministry of Health supervision of family planning services be improved? What project assistance should be provided in this area?

- How can the reporting of contraceptives dispensed and tubal ligations performed be improved, in order that reliable data are available in a timely fashion to calculate CYP achievement?

A.2 Maternal and Neonatal Health Care

- The 1996 survey data indicate that rural, less educated women prefer to go to a CESAMO rather than to a CESAR for prenatal care. For many women, a CESAR would be an adequate place to receive prenatal care. Why aren't women utilizing the prenatal services provided by CESARs? What efforts should be made to strengthen the image of CESARs or should attention be given to increasing the number of CESAMOs in order to extend prenatal coverage? (See MotherCare sponsored perinatal practice study).

- With regard to safe delivery and management of obstetric emergencies, evaluate what has been accomplished to date in achieving PROAG Amendment 22 results indicators. Advise on

what the Mission and the MOH should do over the next 5 years to reduce maternal mortality due to obstetric emergencies in rural areas.

- What would be an appropriate role for the Health Sector II Project in reducing perinatal mortality? What Project assistance should be provided in this area?

- Why do pregnant women with life-threatening problems not get to health centers and hospitals? What can be done to establish more effective referral systems in rural areas for obstetric emergencies? What innovative approaches might be employed to address obstetric emergencies?

- What can be done to increase the proportion of rural, less educated women who deliver in hospitals or MCH clinics? Does the Ministry of Health hospital network have the capacity to absorb an increase in institutional births? If not, what project assistance should be provided to the Ministry to increase its capacity?

- What can be done to increase the proportion of all women who give birth who receive a timely postpartum checkup? How can postpartum care of the mother be effectively integrated with the care of the newborn?

A.3 Child Survival

- The use of oral rehydration salts has not increased over the last 10 years. Why? What Project assistance, if any, should be provided in this area?

- Children with severe cases of ARI and children dehydrated from their recent episode of diarrhea do not get to health centers or hospitals for treatment. What can be done to establish more effective referral systems in rural areas for these illnesses? Taking into account the recent cost-effectiveness study of community management of pneumonia, what should the Project do to advance community management of ARIs?

- How should the project support the area-level hospitals in the treatment of pneumonias as the first line of referral in the primary health care system?

- Immunization coverage of children under one with the four traditional vaccines has remained at over 90 percent and of pregnant women with 2 doses of tetanus toxoid at over 95 percent. Thus, what would be an appropriate strategy for reducing and finally terminating Project support of the cold chain, including travel costs and per diems of vaccinators?

A.4 Rural Water and Sanitation

- How well has SANAA done in using its Project experience to develop partnerships with other donors to continue extending coverage?

- What effect has the creation of the "Técnicos de Agua y Saneamiento" (TAS) and the "Técnicos de Operación y Mantenimiento" (TOM) had on the efficiency and effectiveness of SANAA's rural programs? Has SANAA taken on this program as their own? What further actions need to be taken to strengthen this program?
- How effective has SANAA been in training villagers in the operation and maintenance of the water systems?
- In light of the fact that USAID funds for construction of additional water systems and latrines are no longer available, how should USAID/Honduras continue to support the water and sanitation sector given that it is so crucial to improving health?

A.5 Sustainable Support Systems

- Evaluate what we have accomplished to date in achieving PROAG Amendment 22 results indicators in terms of supervision, health information systems and management information systems. Should the project continue with the activities? Why or why not? If, yes, how should the project proceed?
- Review the implementation of the Administrative Reform effort supported by the Project (SIGAF). Has or will this effort produce meaningful results? Elaborate on what those results have been or will be, discussing the benchmarks and indicators proposed in the project design.
- Evaluate the extent to which the PROAG Amendment 22 covenant on MOH assessment of costs and savings of new technologies and administrative systems, and MOH resource allocation to the rural, primary health care has been accomplished.
- How do the new health authorities view such topics as health reform, cost recovery and sustainability? What plans do the new health authorities have to increase the efficiency and sustainability of the Ministry of Health? How do our new partners in the MOH perceive the Mission's results orientation? From their perspective, will management for results make a difference? If so, how?

B. Private Sector Population III Project

B.1 Sustainability

- To what extent has the administrative reorganization of ASHONPLAFA increased delegation of authority from the central office and given the regional offices increased latitude to plan and manage their programs? Are the regional directors sufficiently trained to manage their programs? If not, what additional training do they need?

- If decentralization has occurred, is the maintenance of a large central staff justified? If not, what changes need to be made to downsize the central staff?
- To a certain extent, ASHONPLAFA has been successful in reducing its operating costs. What additional steps can ASHONPLAFA take to further reduce its operating costs, and to increase productivity and efficiency?
- ASHONPLAFA has diversified its services in order to improve its self-sufficiency profile. Not all of its diversified services are profitable. What needs to be done to make them profitable? Should some current services be dropped because they will never be profitable? What additional non-family services would be feasible for ASHONPLAFA to offer in order to improve its profitability?
- The diversified services are designed to attract middle class men and women to ASHONPLAFA's facilities. Are the facilities suitable enough for this type of clientele? Are the persons who staff these services appropriate to deal with this type of clientele? What additional steps does ASHONPLAFA need to take in order to attract the middle class to its facilities?
- According to the 1996 survey data, a sizeable number of men and women who have the ability to pay for health services utilize the services of the Ministry of Health. The survey data also show that the use of private sector health services is low, especially in the two major urban centers of the country, Tegucigalpa and San Pedro Sula. What can ASHONPLAFA do to fill this void in the private sector?
- What is the operational definition of financial self sufficiency used by the PSPIII Project? How is it measured by ASHONPLAFA? How is it measured by family planning programs in other countries? Discuss any differences in definition or measurement methodology and make recommendations for the case of ASHONPLAFA.

B.2 CYP Achievement

- CYP achievement has declined over the past two years, particularly in the Medical/Clinical program and the Social Marketing program. What explains this decline and what can be done to reverse this trend? How does the new method of paying physicians (riesgo compartido) affect CYP achievement of the Medical/Clinical program?
- What can be done to assure that ASHONPLAFA continues to focus on family planning while diversifying its services to increase income?
- In 1997, the Social Marketing program was responsible for less than 10 percent of ASHONPLAFA's total CYP achievement. Should this program be continued? Why or why not? What would be the impact of eliminating this program on ASHONPLAFA's total CYP achievement and self-financing goals?

- ASHONPLAFA's Community Services program has been functioning relatively well over the past 5 years, producing about a third of ASHONPLAFA's total CYP achievement in 1997. However, what can USAID/Honduras do to help improve this program in increasing the prevalence of contraceptive use in rural areas without sacrificing self-sufficiency?

- In an effort to expand private sector family planning services in rural Honduras, USAID awarded grants to Save the Children and PRODIM, two local PVOs, in 1997. USAID is planning to award two more grants in 1998. In terms of coverage and efficiency, does it make sense to award grants to two more PVOs, or would it be better to grant the money to ASHONPLAFA to expand its rural family planning services? How well are PRODIM and Save the Children working with ASHONPLAFA and the Ministry of Health?

B.3 Support Systems

- To what extent have the systems been implemented? To what extent have the data generated by these systems been effectively used in planning and decision-making? How can these systems and their use be further strengthened?

B.4 Other

- ASHONPLAFA has been approached by the USAID regional HIV/AIDS condom social marketing project (PASMO) to collaborate in the distribution of the regional project's "Vive" condom. Would it make sense for ASHONPLAFA to collaborate with PASMO? If not, is it feasible for ASHONPLAFA to market an HIV/AIDS condom of its own in Honduras? Could ASHONPLAFA achieve the national coverage that would be needed to reduce the transmission of HIV in high risk groups and in the general population? Would other donors be interested in supporting ASHONPLAFA in marketing an HIV/AIDS condom?

- During the last two years, ASHONPLAFA has received a substantial amount of technical assistance from USAID-supported Cooperating Agencies (CA). Mission population funds, however, are becoming scarce. Thus, the Mission is not in a position to provide the same level of technical assistance to ASHONPLAFA in future years. Make recommendations as to which programmatic, administrative and managerial areas in ASHONPLAFA need to continue to receive technical assistance, listing these areas in order of priority.

- How well is ASHONPLAFA working and coordinating with PRODIM, Save the Children, and the Ministry of Health?

- The Private Sector Population III Project had called for three reproductive health committees (training, services and IEC). As things have evolved, there is just one reproductive health working group organized by the Population Council. How effective is this working group?

C. Cross-Cutting Issues

- Advise the Mission on what it should do over the next 5 years to increase rural contraceptive prevalence by at least 10 percentage points.
- How effective has the local Population Council been in providing technical assistance to the Ministry of Health, ASHONPLAFA and other PVOs/NGOs?

VI. METHODS AND PROCEDURES

The Chief of Party (COP) will visit the country 10 days prior to the evaluation to meet with USAID/Honduras technical officers and MOH and ASHONPLAFA counterparts. He/she will also collect background documents and prepare a draft of the field methodology, including a schedule of field visits to be approved by USAID/Honduras. The full team will have a two-day planning meeting in the U.S. to review their scopes of work, the field methodology, and to study background documents.

Prior to the arrival of the COP, the Ministry of Health and ASHONPLAFA will have named technical counterparts to each of the team members. The counterparts will participate actively in all meetings, visits, and activities of the members of the evaluation team. Per diem for their field trips will come from evaluation contractor.

VII. COMPOSITION OF EVALUATION TEAM

The team will consist of a Chief of Party (COP), a Maternal and Neonatal Health Specialist, a Child Survival Specialist, a Water and Sanitation Specialist, a Family Planning Program Sustainability Specialist, a Family Planning Program Specialist, a Family Planning Management Systems Analyst, and a Logistics Specialist.

VIII. REPORTING REQUIREMENTS

The evaluation team will prepare a written report for each project, containing the following sections:

- Table of Contents
- Abbreviations used in the report
- Executive Summary (which shall be a self-contained document that does not exceed three pages)

- Body of the report (approximately 35 pages)
 - Purpose and study questions of the evaluation
 - Economic, political and social context of the project
 - Team composition, field of expertise and role each member played in the evaluation
 - Study methodology (one page maximum)
 - Findings of the evaluation
 - Conclusions
 - Recommendations
 - Lessons learned

Each of the line items listed above should be presented in separate sections of the report. Detailed descriptions and background documentation should go into annexes to the report.

The report will provide the information (evidence and analysis) on which the conclusions and recommendations are based.

Conclusions should be short and succinct, with the topic identified by a short subheading related to the question posed in the Statement of Work.

Recommendations should correspond to the conclusions. Whenever possible, the recommendations should specify who or what organization should be responsible for the recommended actions.

Lessons learned should describe the causal relationship factors that proved critical to project success or failure, including political, policy, economic, social and bureaucratic preconditions within the host country and USAID. These should also include a discussion of the techniques or approaches which proved most effective or had to be changed, and why.

- Appendices will include at a minimum the following:
 - Scope of Work
 - Description of the methodology used in the evaluation

- Bibliography of documents consulted
- List of individuals contacted

Under the direction of the COP, the evaluation team will prepare and submit English and Spanish draft reports on the evaluation of each Project to USAID/Honduras. For the discussion which follows, week #1 corresponds to the first week the evaluation team is in country.

By Wednesday of week #6, the team will submit a first draft of the evaluation reports, with annexes and a diskette (WP5.2 format). Ten copies in English and ten in Spanish of each report will be submitted. USAID/Honduras, MOH and ASHONPLAFA officials will review the draft reports and provide preliminary comments to the COP by COB Tuesday of week #7. The COP will incorporate feedback from USAID, the MOH and ASHONPLAFA into a second draft reports and distribute them (ten copies in English and ten copies in Spanish of each report) with diskette to USAID prior to his/her departure at the end of week #7.

USAID, the MOH and ASHONPLAFA will have 10 working days to provide additional comments to the contractor on the second draft of the evaluation reports. The contractor will then have an additional 10 working days to incorporate USAID, MOH and ASHONPLAFA comments and present the final report and diskette to the Mission. Twenty copies in English and ten in Spanish of each report will be submitted to USAID/Honduras.

The evaluation team will brief USAID, the MOH and ASHONPLAFA separately regarding their findings, conclusions and recommendations prior to departure of the team. This will be done during week #6.

IX. BUDGET

Amendment to VII: Reporting Requirements

During negotiations between USAID/Honduras and POPTECH, the schedule was modified as follows:

Debriefing with USAID, ASHONPLAFA, MOH	June 15
Draft report submitted by the Team	June 16
Comments on the report from USAID, ASHONPLAFA and MOH submitted to the Team	June 19
Submission of second English draft and translation of key findings and recommendations to USAID, MOH, and POPTECH	June 26
Submission of Mission comments on second draft	July 10
Chief of Party submits final copy of report to POPTECH	July 17
POPTECH edits report and submits clearance draft to USAID	Aug. 7
POPTECH receives formal written clearance on report from USAID	Aug.21
POPTECH sends report for Spanish translation	Aug.31

Twenty copies of English report distributed to USAID/Honduras Sep 10
Ten copies of Spanish translation distributed to USAID/Honduras Sep. 20

APPENDIX B

Bibliography

Mid-Term Evaluation, Health Sector II (Project 522-0216).

Cooperative Agreement No. 522-0389-A-00-5411-00.

Project Agreement Amendment No. 22, Between the Republic of Honduras and the United States of America for Health Sector II (Project 522-0216), July 1996.

Project Paper, Health Sector II, 522-0216.

Project Paper Supplement No. 2, Health Sector II, April 1996/September 1999.

Project Implementation Letter No. 56, Health Sector II, (Project 522-0216).

Manual de Normas y Procedimientos para las Acciones de Control y Manejo de las Enfermedades Diarréicas Agudas y Parasitarias (1991). Programa de Control de Enfermedades Diarréicas. Departamento de Atención al Niño, División de Salud Materno Infantil. Dirección General de Salud, Ministerio de Salud Pública.

Encuesta Nacional de Epidemiología y Salud Familiar (ENESF-96). Informe Final. Noviembre 1997. Ministerio de Salud Pública de Honduras, Asociación Hondureña de Planificación Familiar, United States Agency for International Development, Honduras.

Encuesta Nacional de Epidemiología y Salud Familiar (ENESF-91/92).

Manejo Comunitario de Neumonías. ¿Cómo tratar y cuándo referir al niño o niña con neumonía?. Programa Nacional de Control de Infecciones Respiratorias Agudas. Ministerio de Salud Pública, Honduras, 1996.

Normas y Procedimientos para las Acciones de Control y Manejo de las Infecciones Respiratorias Agudas, a Nivel Ambulatorio. Programa Nacional de Control de Infecciones Respiratorias Agudas. Secretaría de Salud, República de Honduras, 1997.

Meléndez J.H y col. Protocolos para la Atención de los Niños y las Niñas con Infecciones Respiratorias Agudas - Nivel Hospitalario. Programa Nacional de Control de Infecciones Respiratorias Agudas, Ministerio de Salud Pública, Instituto Hondureño de Seguridad Social.

Boletín de Información Estadística de Atención Ambulatoria en Salud. Año 1994. Dirección de Planificación, Departamento de Estadística. Dirección General de Salud, Secretaria de Salud en el Despacho de Salud Pública. República de Honduras.

La Honduras de Hoy y la Honduras de Mañana.

Plan Quinquenal del Programa Ampliado de Inmunizaciones, 1996-2000.

Evaluación del Programa Ampliado de Inmunizaciones, 1994-1997.

Estudio Costo/Efectividad de Voluntarios de Neumonía.

Normas de Atención a la Mujer, Ministry of Health, GOH, 1998.

Manual para la Capacitación de Parteras Tradicionales.

Morbilidad y Mortalidad Neonatal en el Area Rural, Regiones 1, 2 y 3; Secretaria de Salud/Save the Children, Financimiento y Apoyo Técnico-MotherCare, BASICS, USAID, Noviembre, 1997.

Development in Practice, A New Agenda for Women's Health and Nutrition, World Bank , 1994.

Normas de Atención en Planificación Familiar, Population Council, 1998.

Pathway to Survival: MotherCare Matters, Volume 6, No. 4, October 1997, Special Edition.

Technologies-Appropriate and Inappropriate: Safe Motherhood, a Newsletter of Worldwide Activity, World Health Organization, Issue 18, 1995.

Guidelines for Monitoring the Availability and Use of Obstetric Services, United Nations Children's Fund, World Health Organization, United Nations Population Fund, October 1997.

Manual de Normas y Procedimientos para la Prevención y Control del Cáncer Cérvico Uterino, Organización Panamericana de la Salud, Fondo de Población de las Naciones Unidas, 1997.

Maternal Health: A Vital Social and Economic Investment, Family Care International 1998.

What Countries are Doing to Stem the Toll: Safe Motherhood, UNICEF, April 1998.

Boletín Cuidado Materno, MotherCare, No. 4, Octubre-Diciembre de 1997.

Improving Obstetrical and Neonatal Management: Lessons from Guatemala: MotherCare Matters, Volume 5, No. 4, August, 1996.

Essential or Emergency Obstetric Care: Safe Motherhood, #18.

Para Salvar la Vida, Marge Koblinsky, MotherCare, USAID, 1996.

Informe Anual del Año 1997: Resumen de los Indicadores SSII. Secretaría de Salud Pública, Enero de 1998.

Honduras; Improving Access, Efficiency, and Quality of Care in the Health Sector, World Bank, October 31, 1997.

Informe e Avance de los Resultados Intermedios del Proyecto Sector Salud II, Ministerio de Salud, 1998.

Información variada sobre “ACCESO”.

Manual y Reglamento para Administración de Fondos Recuperados a Nivel de CESAR y CESAMO, 1994.

Listado de establecimientos de Salud de las Nueve Areas del Proyecto.

Indicadores por Resultado Intermedio 1996 y su Proyección a 1999.

Modelo Nacional de Supervisión, Monitoría y Evaluación, 1997.

Pacto por la Infancia, Alcaldías Municipales de Honduras, 1994.

Plan Estratégico y Operativo 1998, Area de Siguatepeque, Región 2.

Plan Estratégico y Operativo 1998, Area de Puerto Cortés, Región 3.

Contrato (Grant) Planificación Familiar, Save the Children.

Contrato (Grant) Planificación, PRODIM.

Salud en Cifras, 1992-1996.

Informe Annual de Actividades 1996, Ministerio de Salud.

Boletín de Información Estadística de Atención Hospitalaria 1996.

Project Paper, Private Sector Population II and III Projects.

Planes de Acción, 1996-97, ASHONPLAFA.

Plan de Monitoreo, 1996-2000, ASHONPLAFA.

Plan de Evaluación, 1996-2000, ASHONPLAFA.

Presentación de Logros, Plan de Acción, 1996, ASHONPLAFA.

Informe Anual de Labores, 1997, ASHONPLAFA.

Plan de Capacitación Interna, 1996, ASHONPLAFA.

Estudio sobre Calidad de Atención y Satisfacción de Usuarías del Programa Médico-clínico, ASHONPLAFA.

Informe Estadístico, 1996, ASHONPLAFA.

Informe Financiero, Primer Semestre, 1997, ASHONPLAFA.

Resultados Indicadores, ASHONPLAFA.

Plan de Mejoras, Mayo 1997, ASHONPLAFA.

APPs 1995 y Meta al Año 2000, ASHONPLAFA.

Plan de Acción, 1998, ASHONPLAFA.

Plan Estratégico 2001, ASHONPLAFA.

Manual de Control Interno, Unidad de Coordinación, Proyecto Sector Salud II.

Manual de Administración de Sueldos y Salarios, Unidad de Coordinación, Proyecto Sector Salud II.

Informe Presupuestario por Objeto del Gasto, Año 1997, Unidad de Coordinación, Proyecto Sector Salud II.

Informe de Ejecución Presupuestaria, Cuarto Trimestre, 1997, Unidad de Coordinación, Proyecto Sector Salud II.

Informe de Ejecución Financiera al 31 de Diciembre de 1997, Unidad de Coordinación, Proyecto Sector Salud II.

Los Técnicos de Operación y Mantenimiento del Servicio Nacional de Acueductos y Alcantarillados (SANAA) y su Papel en la Sostenibilidad de los Acueductos Rurales de Honduras.

Rural Water and Sanitation in Honduras, SANAA.

Manual de Normas del PAI.

Guía Práctica para Eliminación del Sarampión, Julio de 1997.

Guía de Autoinstrucción para Erradicación de la Poliomielitis en Honduras, 1994.

Manual de Autoinstrucción sobre Vigilancia de Tosferina, Enero de 1993.

Informe de Viaje, Sistema de Información Gerencial Administrativa y Financiera, Alvaro García.

Términos de Referencia, Sistema de Información Gerencial Administrativa y Financiera.

Diagnóstico Técnico Organizacional, Sistema de Información Gerencial Administrativa y Financiera.

Manual de Normas y Procedimientos de Atención Integral a la Mujer (borrador).

Manual de Normas y Procedimientos de Atención Integral a al Mujer, Mayo de 1998.

Manual de Normas de Manejo de Emergencias Obstétricas (borrador).

Evaluación Unidad de Atención a la Mujer, 1994-1997.

Protocolos para la Atención del Recién Nacido.

Investigación Cualitativa Morbi-Mortalidad Neonatal, Area Rural, Región 1, 2 y 3, 1997, Grupo de Estudio: Parteras.

Investigación Cualitativa de la Morbi-Mortalidad Neonatal, Area Rural en Regiones 1, 2 y 3.

Manejo Comunitario de Neumonías.

Manual de Normas y Procedimientos para el Control y Manejo de C.E.D.

Manual de Normas y Procedimientos para las Acciones de Control y Manejo de las Enfermedades Diarreicas Agudas y Parasitarias, Ministerio de Salud, Division de Salud Materno Infantil, 1991.

Evaluación Nacional, Período 94/97, Enfermedades Diarréicas.

Propuesta de Desarrollo de los Sistemas Nacionales de Información.

Sistema de Información y Vigilancia Epidemiológica.

Evaluación Cuatrienal, Período 1994-1997 de la Unidad de Recursos Humanos.

Informe de Actividades de la Unidad de Educación, 1997.

Manual de Normas de Manejo de Emergencias Obstétricas, Ministerio de Salud, División Salud Materno Infantil, Departamento de Atención a la Mujer, Noviembre de 1996.

Atención del Recién Nacido, Propuesta de Contenidos para el Manual de Capacitación de Parteras en Honduras; Elaborado por: Lic. Teresa Noemí Coto; Partera, Mercedes Peralta; Auxiliar de Enfermería, Alba Pacheco; Dra. Ada Rivera; Licenciada Asesora, Gloria Metcalfe, MC; Doctor en Pediatría, Oscar Banegas; mayo 25-29 de 1998

USAID Memorandum: SO3 1997 Annual Results Review (ARR) and Issues, November 21, 1997.

The World's Youth, Population Reference Bureau, 1996.

The World Population Data Sheet, Population Reference Bureau, 1997.

Results Review and Resource Request (R4), USAID/Honduras, May 1997.

Informe sobre el Avance al 31 de enero de 1998 de los Resultados Intermedios Comprometidos Mediante la Enmienda No. 22 del proyecto Sector Salud II, Secretaría de Salud Pública, 23 de enero de 1998.

Resumen Ejecutivo, Proyecto "Acceso a Servicios de Salud", Enero de 1998.

Sistema de Supervisión, Monitoría y Evaluación, Secretaría de Salud Pública, 1996.

Elementos para la Supervisión de los Equipos de Salud; Determinación del Grado de Avance del Grupo como Equipo de Trabajo, A Categorías; Región de Salud No. 2.

Resumen Propuesta de Supervisión; Región Sanitaria No. 1; 14 de julio de 1997.

Propuesta para desarrollar el proceso de supervisión capacitante en los niveles regional, área, sector y UPSs; Región Sanitaria No. 2.

Estudio de Mejoras al Sistema de Focalización, Informe Final, Propuesta para el Mejoramiento del Sistema de Focalización del Programa de Asignación Familiar (PRAF), ESA Consultores, Agosto de 1996.

Boletín: Riesgo Reproductivo y Salud Materno Infantil, Tegucigalpa, Honduras, 1995.

Informe de Avances del Proyecto, “Expansión del Rol de Auxiliares de Enfermería en la Prestación de Servicios de Planificación Familiar”, Abril de 1998.

Honduras: ¿Cómo lograr salud para todos? Acceso, eficiencia y equidad en el sector salud de Honduras, Banco Mundial, Febrero de 1998.

Acceso a Servicios de Salud: Eje Fundamental de la Modernización y Reforma del Sector Salud, Ministerio de Salud Pública, OPS/OMS, Mayo de 1995.

Informe/Resumen: Planes Estratégicos y Operativos del Proyecto Sector Salud II, Ministerio de Salud Pública/Agencia de los Estados Unidos para el Desarrollo Internacional.

Instrumento de Supervisión de la Región Salud No. 3, Centro de Salud con Médico y Odontólogo (CESAMO), Centro de Salud Rural (CESAR), San Pedro Sula, Cortés, Honduras, 1998.

Serie de documentos estadísticos: Fecundidad y Mortalidad; Lactancia Materna y Alimentación Suplementaria; Uso de los Servicios de Salud Materno-Infantil; ETS/VIH/SIDA, Hombre; ETS/VIH/SIDA, Mujer; Inmunización.

Estudio Médico Clínico, 1997, ASHONPLAFA,

Informe de Avances, Septiembre de 1995 a Enero de 1997, Presentando en: Evaluación Nacional de los Servicios de Salud del Año 1996.

Evaluation of the USAID/Honduras Private Sector Population II Project, 522-0369, POPTECH, July 1995.

APPENDIX C

Contacts

Ministry of Health: Tegucigalpa

Victor Melendez, Vice-Minister, Service Network
Francisco Rodríguez, Director of Sanitary Regions
José Cipriano Ochoa, Director Population Risks
Sergio Carías, Director of Planning
Janeth Aguilar, Technical Support Group
Daisy Erazo, Saneamiento Ambiental
Teresa Reyes, Head of Maternal Health
Roberto Valladares, Technical Advisor ARI
Leonel Guillén, Technical Advisor PROCED
Leticia Castillo, Technical Advisor AIN-AIEPI
María Aparicio, Technical Advisor EPI
Laura Martínez, Technical Advisor, Maternal Health

Maritza Ramírez, Encargada de Despachos, Almacén Central
César Padilla, Almacén Central de Anticonceptivos

Ivan Vigil, Director, Project Coordinating Unit, MOH
Daniel Ferrera, Administrator Project Coordinating Unit, MOH
Francisca Trinidad Acosta, Project Coordinating Unit, MOH

SANAA: Tegucigalpa

César A. Martinez, Jefe de Sistema de Planificación, División de Desarrollo
Javier Rivera, Director del Proyecto PSS II- SANAA
Salvador Larios Cobos, Jefe de Departamento de Acueductos Rurales, Programa
César A. Martinez, Jefe de Sistema de Planificación, División de Desarrollo
Gerardo Salgado, Jefe de Programa T.O.M.- Departamento Francisco-Morazan
Victor Javier Seville Carrasco, T.O.M. principal
Carlos Roberto Puerto, T.O.M.
Jaime Renan Blandin Zepeda, T.O.M
Santos Eduardo Granados Llainez, T.O.M
Damian Suazu, TAS

USAID Personnel

Mary Ann Anderson, Director, Human Resources Development Office
David Losk, Chief, HPN Division, Strategic Objective 3 Deputy Team Leader
Ernesto Pinto, HPN
Angel Coca, HPN
Alvaro González Mármol, Technical Advisor, HPN
Herb Caudill, HPN
Ross Hicks, HPN
Richard Monteith, HPN, TAACS Advisor
Etna Avila, Technical Advisor, SIGAF

Others: Tegucigalpa

Barry Smith, BASICS, Regional Advisor
Gustavo Corrales, BASICS
Irma Mendoza, The Population Council
Leonel Pérez, Hospital Escuela
Ana Raquel Gómez, Hospital Escuela
Rodulio Perdomo, Economic Consultant, PHR
Jorge Hermida, Quality Assurance Project
Roberto Badilla, Regional Representative for Health, InterAmerican Development Bank
Jorge Torres, Honduras Health Officer, InterAmerican Development Bank
Jairo Palacio, Representative, United Nations Population Fund

Comayagua

Alejandro Melara, MOH, Director Health Region II
Mariela de Campos, MOH, Regional Nurse
Olga Marina Pineda, MOH, Nurse Area I
Erick Vasquez, MOH, Vectors Supervisor Area I
Jacobo Herrera, MOH, Regional Educator
Ricardo Manzanares, Asistente Guarda-almacén, Regional II, Comayagua, Comayagua
Rosaleli Corrales, MOH, Maternal and Child Clinic, La Libertad
Ramona Rosa Castro, MOH, Auxiliary Nurse, CESAR Jamalteca
Flerida Linares, MOH/MD, CESAMO San Jerónimo
María del Carmen Pinoco, MOH, Nurse, CESAMO San Jerónimo
Olmeda Florez, MOH, Auxiliary Nurse, CESAMO San Jerónimo
Olga Marina, MOH, Nurse Area 1, Region 2, Comayagua
Vásquez, Supervisor Area 1, Region 2, Comayagua
Manuel Domínguez, Supervisor of Water and Sanitation, Area 1, Region II
Community members of Guacamayas and Aguafría, Area 1, CESAR El Ciruelo
Reyna Saravia, Auxiliary Nurse, CESAR El Ciruelo, Area 1 Region II

Olga María Jiménez, Auxiliary Nurse, CESAR Lomas de Cordero Area 1 Region II
Ana Reyna Flores, Community Volunteer for CESAMO La Sabana, Area 1 Region II
Rosa de Fonseca, Community Volunteer for CESAMO La Sabana, Area 1 Region II
Ana María Donayre, Community Volunteer for CESAMO La Sabana, Area 1 Region II
Margarita Domínguez, Community Volunteer for CESAMO La Sabana, Area 1 Region II
Rosalía Arévalo, Community Volunteer for CESAMO La Sabana, Area 1 Region II
Emma Fonseca, Physician, CESAMO El Rosario
Clara Marena, Nurse Auxiliar, CESAMO El Rosario
Mávis Mendoza, Nurse Auxiliar, CESAMO El Rosario
Manual Aurellana, Community Promoter, Nurse Auxiliar, CESAMO El Rosario
Maria Odelia Mejia, Nurse Auxiliar, CESAR Agua Salada
Joaquina, Head Nurse, Comayagua Hospital
Roerto Mendoza Peñas, Maestro de Educación Media
Jorge Martinez Claros, Maestro de Educación Primaria
Angela Orellana, Psicóloga Regional
Jacobo Perrera, Educador Regional
Alcides Martinez, Médico y General; Arnold Houghton, Microbiologo y Quimico Clinico
Daisy Mejia de Erazu, Licenciada Administración Pública

Siguatopeque

Jesús Arriaza, MOH, Acting Area Director
Jorge Maldonado, MOH, Area Administrator
María Elena Medina, MOH, Nurse Supervisor
Hetor López, MOH, Area Nutritionist
Lilian Vasquez, MOH, Nurse, Maternal and Child Clinic Siguatopeque
Rosalío Sánchez, Almacenista de Area III, Región II, Siguatopeque
Gabriela Barahona, Directora CESAMO Siguatopeque
Lucas Cabrera, Health Promoter, CESAMO Taulabé
Isolina Aguilar, Auxiliary Nurse, CESAMO Taulabé
Marcelina Reyes, Traditional Birth Attendant, Jaitique
Rosaura Reyes, Auxiliary Nurse, CESAR San José de Comayagua
Hortensia Avila, Auxiliary Nurse, CESAR Las Delicias
Maria Bautista Amaya, Traditional Birth Attendant, CESAR Las Delicias
Raymunda Amaya, Health Guardian, CESAR Las Delicias
Maria Doblado, Traditional Birth Attendant, Siguatopeque
Yeymuna Maya, Traditional Birth Attendant, Delicias
Maria Saturnada Giron, Nurse Auxiliar, CESAR Agua Dulce
Helmut Castro, Director Regional, Aldea Global
Carlos Durvues, Physician, CESAMO Parnaso
Jamiléth Munoz, Nurse, CESAMO Parnaso
Lubia Maldonado, Laboratorista, CESAMO Parnaso

SANAA Región Centro Occidente, Siguatepeque

German Andino, Gerente Regional División Centro Occident
Trinidad Rojas Calderón, Supervisor de Acueductos Rurales, Programa TOM
Wenceslao Orellana Diaz, Jefe de Construcción de Acueductos Rurales, Programa TAS
David Alfonso Rodrigues David, TOM (Intibuca)
Raúl Antonio Mejia, TOM (Intibuca)
Rogelio Castillo Castro, TOM (La Paz)
Orlin Rivera, TOM (Comayagua)
Jose Raúl Padilla M., TOM (Comayagua)
Wilfredo Hernandez, TOM (Comayagua)
Marvin Giovanni Maradiaga Matute, TOM (Comayagua)
Olvin Olmar Navariete, TOM (La Paz)
Freddys Omar Suazu, TOM (La Paz)

San Pedro Sula

Carlos Bennatton, MOH, Regional Director
Iván Torres, MOH, Coordinator ACCESO Project
Alba Barahona, MOH, Area Director
Gustavo Zuniga, MOH, Director National Hospital
Alexis Reyes, MOH, Deputy Director National Hospital
Daisy Sevilla, MOH, Head Nurse, National Hospital
Doris Torres, MOH, Nurse Labor and Delivery, National Hospital
Delia Terceros, Jefe de Epidemiología, Región III San Pedro Sula, Cortés
Lourdes Herrera, Coordinadora de Tuberculosis y Vigilancia Epidemiológica y Capacitadora en Logística, Región III, San Pedro Sula, Cortés
Alma Barahona, MOH, Head of Area 1
Ricardo Mejía, Jefe de Almacén Regional III, San Pedro Sula, Cortés
María Cristina Bustamante, Jefe de Departamento Regional Nor-Occidental Farmacia
Justa Josecita Suazo, Auxiliary Nurse, CESAR La Sabana
Argelia Menéndez, Auxiliary Nurse, CESAR Santiago
Bianca Sandoval, Physican in Social Service, CESAMO San Manuel Cortes
Leonor Garcia, MOH Assistant Director, MCH, SPS
María Soledad Moya, CESAMO Administrator, San Manuel Cortes
Norma Moreno MOH, NuTBA Potrerillos
Orlando Rivera, Sub-Director CESAMO Choloma, Area I, San Pedro Sula, Cortés

Puerto Cortés

Doris Altamirano, MOH, Area Director
Elizabeth Benítez, MOH, Epidemiologist
Marina de Madrid, MOH, Nurse, Area Supervisor
Javier Vallecillas, MOH, Area Administrator

Efraín Pérez Llanos, Conserje II, (encargado de almacén), Area III, Puerto Cortés, Cortés
Elida Durán, Auxiliary Nurse, CESAR Tegucigalpa
Maria Luisa Ayala, Community Volunteer and TBA, CESAR Tegucigalpa
Sandra Hernández, Auxiliary Nurse, CESAMO Cuyamel
María Luisa Ramos, Auxiliary Nurse, CESAMO Cuyamel
Ada Ruth Sanchez, MOH, Director Area Hospital
Mirta Madrid, MOH, Administrator Area Hospital
Georgina Pineda, MOH, Head Nurse, Area Hospital
Norma Aguilar, Nurse Auxiliar, CESAMO, Baracoa
María Santos, MOH, Nurse Auxiliar, CESAMO, Baracoa
Francis Murillo, MOH, Nurse Auxiliar, CESAMO Puente Alto

Sabana Grande

Victor Godoy MOH Regional Director
Dajmar Martinez, Resident Physician, CESAMO, Sabana Grande
Gloria Martinez, Nurse Auxiliar, CESAMO Ojojona
Margarita Valladeras, Nurse Auxiliar, CESAR Guazucaram
Rosa Helena Cortez, Servicio Social, CESAR de Rio Hondo

La Paz

Jazmín Yoliver, Enfermera Auxiliar, CESAMO Villa San Antonio, Región II, Area IV
Daysi Delcid, Enfermera Auxiliar CESAR Flores, Región II, Area IV

MOH Santa Rosa de Copan

Mario Perdomo, Promotor Social, Coordinador Regional de Promotores
Julio Gabarete, Técnico II Laboratorio Clinico, Analista de Aguas, Región 5 de Salud
Jose Alvarado, Jefe Programa TAS, Región Occidente

SANAA Región Occidente, La Entrada de Copan

Marco S. Valenzuela T., Jefe de Programa TOM, División Occidente
Jose A. Alvarado, Jefe de Proyecto TAS, Región Occident
Darlan Osman López, TOM
Santo A. Anuby, TOM
Florentino Merijuar A., TAS
Carlos E. Ramirez M., TOM
Juan Manuel Miranda Rivera, TOM
Jose Abel Espinosa, TOM
Moises Leonel Oviudo, TOM
Angel Velis Cortes, TAS
Modesto Antony Murillo, TOM

SANAA, Región Atlántico, La Ceiba

Geronimo Pineda, Jefe Regional
Patricia Martinez
Allan Buezo, TOM
Marco Antonio, TOM
Carel Flores, TOM

CARE, La Ceiba

Rigoberto Escalon, Asistente a la Gerencia

SANAA, Región Sur, Choluteca

Melvin Garcia, TOM
Abraham Guillen, TOM

Community El Martenal

Santo Plutarco, Presidente de Junta de Agua
Leomicio Ramirez, Fontanero 1
Rogelio Castro, Fontanero 2
Adonai Amador, Vocal 1 de Junta de Agua
Jose Luis Correa, Fiscal de Junta de Agua
Maximo Flores, Vocal 2 de Junta de Agua
Orlin Giovanni Alvarez, community member
Jose Rivense, community member
Javier Casco, Save the Children
Todd Thorne, Peace Corps Volunteer, Save the Children

Community El Maraquito

Pablo Marino, Presidente de Junta de Agua
Rumas Moran, Vocal 1 y Fontanero
Don Marianito, Ex-tesorero de Junta de Agua

Community El Ciprés

Daniel Damian Suazu, Presidente, Junta de Agua
Jose Trujillo, Vocal 1, Junta de Agua del Proyecto

Community Cruz del Arco. La Brea

Ramon Silva, Tesorero, Junta de Agua

Jose Luis Sienne, Fontanero
Miguel Angel Soza, Secretario, Junta de Agua

Community Rio Hondo

Bernardo Rivera, Presidente, Junta de Agua
Mario Casco, Vice presidente de patronato
Melvin Ponce, Secretario, Junta de Agua
Victor Sevilla, TOM principal

Community El Durasno

Carlos R. Puerto, TOM,
El Durasno: Orfilia Soza Gomez
Adela Soza Turcios, community members

Community Aguas del Padre

Saúl Martinez Duarte, Fiscalero de Junta de Agua
Abelino Jimenes, Fontanero de Junta de Agua

Community La Entrada, Barrio Suyapa

Evela Lopes, Felicia Ramos, Carmen Lopes, Teresa Bonillo, community members

Community El Remendado, M. Trinidad, Copan

Felipa Alejano, community member

Community La Flecha

Alfonso Rodriguez, Educador de Salud.
Carlos Martinez, Coordinador de Promotores de Región 5
Alta Gracia Paz, community member
La Flecha: Florentino de Jesus Valle, Vocal, Junta de Agua.

Community Las Camelias

German Hernando Herrera, TOM
Benjamin Saldivar Diaz, Tesorero and Fontanero, Junta de Agua

APPENDIX D

Ministry of Health Logistics Systems

A logistics system is not simply storage and transportation. A logistics system is a group of activities contributing to guarantee the timely availability of inputs. Activities needed to accomplish this task range from selection, programming, and procurement of inputs, to storage, transportation, and final distribution. Appropriate and timely information is the motor moving the entire process.

The main weakness of the Ministry of Health's logistics system is that responsibility for its management has been delegated to people not trained for the task; this makes the information system unreliable and makes it impossible to implement adequate inventory control. Among the strengths of the system are that there is adequate warehouse space, transportation capacity exists, and staff at the central level who are involved in national programming and distribution have received some good training.

A. FINDINGS

Current Logistics System Functioning

Current MOH procurement takes approximately 18 months from start to finish, as follows:

- (1) Selection of medicines to be included in the annual request (October)
- (2) Analysis of the request prepared by MOH supervisors (November)
- (3) A matrix is prepared and sent to the regions asking for their needs (March-April)
- (4) Annual needs request is received from regions (June-July)
- (5) Analysis and readjustment of programming at the central level and work on the bidding procedures (July-September)
- (6) Bidding approval and purchase (October-December)
- (7) The medicine is received in the central warehouse (January-February)
- (8) Arrival of medicines to regional warehouses (March)

This means that regions have to make projections for drug requirements in Year Two several months before they receive any drugs requested 12 months earlier.

Under normal conditions, a long lead time does not necessarily result in stock-outs if the lead time is properly identified and included in the planning. However, this is not the case in the MOH system. As a result, when purchase decisions are made, neither a minimum stock of 12 months nor a maximum stock of 24 months is built into decisions on how much to purchase.

Also, the MOH's annual budget for medicines is insufficient for the purchase of a year's supply of all drugs. Thus, shortages of some drugs are expected—and compensated for—by everyone

throughout the system. It is unclear whether there is any priority given to the purchase of Type A drugs, the ones which save lives.

Delays of three more months in approving the 1998 purchase will mean a considerable stock out of medicines in 1999, even more than what the Ministry of Health normally faces.

Staff Training

At the regional, area, and health post levels, there are few staff with any training in logistics although the way the system works, these people are the ones making decisions about supplies.

In the MOH central office, there are staff capable of training others in logistics. Some time ago, four MOH personnel were trained in logistics in Venezuela; one of these people still remains in his position and his technical knowledge is good. On their return from Venezuela, three of these staff carried out a training course directed to regional and area warehousemen, drivers, community staff, and nurses. No refresher training has been provided since this course was conducted.

Data Management

Data gathering instruments are not clear and do not help to calculate the amount of supplies that should be requested. No accurate data are being recorded at any level of the system regarding balances or consumption.

Annual programming prepared by the regions is inaccurate because regions generally do not take into account consumption; those regions where consumption is reasonably well calculated do not calculate the underuse of medicines. Finally, regions do not take into account balances, stocks in the regional warehouses and in warehouses at the CESAR/CESAMO level.

The computers at the regional warehouses are not being used to control inventory. The lack of appropriate software to monitor regional balances results in this hardware being used simply to record ledger balances, work that can be performed almost as easily manually.

Central, Regional, and Local Warehouse Capacity

The capacity of the MOH central warehouse to store medicine is limited. Medicines were not found in optimum condition because of storage conditions, ventilation and an orderly control of stocks. Overall, practices applied by the staff are adequate, however.

The warehouse adapted by USAID for contraceptive storage at the central level was found to have adequate space and was appropriately air conditioned. However, office furniture from another USAID project is also being stored there, causing cramped conditions and less than optimal storage conditions.

Regional warehouse practices and storage conditions are inadequate. The Ministry of Health received USAID support for the construction of a warehouse in each area; only two of eight regions have functioning warehouses. Warehouses in many cases serve as deposits for unserviceable articles and junk; a significant amount of warehouse capacity is taken up this way, decreasing the space available for adequate air circulation, accessibility, and repacking. In addition, there is also no budget for a full-time person to be in charge of regional warehouse maintenance.

A large number of the metallic shelves in regional warehouses are unnecessary: too much shelving is taking up storage space.

CESARs and CESAMOs are susceptible to robberies, which in some cases occur frequently. These facilities do not have guards during the hours they are closed, three-thirty in the afternoon to seven-thirty in the morning. Even when there is some security, bars on the windows for instance, buildings have been broken into and medicines stolen.

Transportation

Transportation needs are generally covered. There is adequate transportation at the central, regional and area levels, and money is set aside in the budget for fuel and maintenance. In some regions, the conditions of the transportation are not the best, but the vehicles are usually able to comply with quarterly distribution needs. However, in some areas, vehicles are expropriated by the authorities for non-logistics activities.

Supervision

There is no routine supervision of logistics staff. The MOH central office does not have a budget for supervisory trips; the regional level does not have enough staff trained to carry out supervision; and the area level does not have personnel in charge of logistics.

Program Specific Issues

Contraceptives have been donated by USAID and UNFPA to cover 1998 needs. In general, there has been no shortfall in the supply of contraceptives, except for an occasional shortage of Copper “T” IUDs. The GOH has fulfilled its commitment of covering 3 percent of costs established for the purchase of contraceptives in 1997 and exceeded its 1998 contribution by 50 percent.

The immunizations/epidemiology program manages the cold chain and the provision of vaccines separately from other medicines. Local area offices, CESARs, and CESAMOs usually have freezers, while cold rooms and refrigerator trucks are generally available at the regional level. The areas deliver vaccines to health posts in cold boxes or the health posts pick up their vaccines in thermos that protect the vaccines for up to 24 hours.

As reported elsewhere, adequate maintenance of the cold chain is suspect, and the age of the equipment needs further study.

B. CONCLUSIONS

As a result of the unreliability of the logistics information and data management, none of the other components of the system can work effectively, causing over-supply in some cases and frequent stock-outs in others. A lack of training associated with the data collection instrument means that the logistics management information system does not contribute to decision making. The annual estimates of needs developed at the central level have a high range of error because they are based on unreliable data sent in from the regions.

All levels of the MOH distribution system face frequent stock-outs of medicines. The MOH's inability to cover its annual medicine needs from GOH funds is made worse by the fact that cost recovery is almost nonexistent. The Ministry of Health's needs should be prioritized towards medicines that save lives.

In general, the information system underestimates balances on hand and overestimates consumption. Such deficiencies would normally generate an over-supply; in fact, because the Ministry does not purchase 100 percent of its needs, supply and demand are more in line than they might otherwise be.

An adequate inventory control system does not exist at local levels.

Physical infrastructure of regional warehouses is adequate but warehouse management is poor: use of space is not optimized. Warehouse space is used to store unserviceable equipment.

Because of a shortage of competent warehouse staff, storage capacity at the "areas" cannot be taken into account as part of the distribution system. The lack of trained personnel does not facilitate the areas' fulfilling minimal duties in consolidating data, assuring data quality, and delivering medicines to the CESARs and CESAMOs in a timely fashion.

Logistics activities are not judged important in the MOH hierarchy, thus there is an absence of senior-level oversight, monitoring, and supervision. The end result of this low interest is evidenced at the area level where there is no one specifically assigned to assume these responsibilities; "logistics" is reduced to a locked room without medicines, the key for which is held by the cleaning staff. Those who have supposedly been assigned the task of supervising the distribution of medicine and supplies have other responsibilities, and logistics requirements are low on the list.

C. RECOMMENDATIONS

Significant improvement in the MOH logistic system will require high-level political commitment in seven areas: training of regional and area staff, redesign of the logistics data collection and

reporting instruments, reorganization and strengthening of the maximum-minimum system, maximized use of scarce budget resources, upgrading of staff, improvement of supervision, and implementation of several pilot activities or studies. Most of these items do not cost a lot of money, but they will not happen on their own without senior-level interest and involvement.

1. All logistics staff in the regions and areas should receive training or re-training.

The MOH should develop a national training plan in logistics, to be carried out at the local level. Refresher training is a starting point for improving any system. Participants should be selected after designating one warehouse person in all areas, and two people from the regional warehouses. A logistics administration course should include at least the following:

- Information system for logistics administration
- Maximum and Minimum inventory control system
- Storage practices and conditions
- Cold chain
- Oncology medicine handling

At the end of the course, participants should be asked to identify logistics problems in their installations and propose a workplan to solve them. This workplan, to which they are committed, constitutes the key element for follow-up supervision.

As an outcome of such course work, the MOH central level should develop a basic logistics guide to be disseminated at all levels of service delivery (to nurse auxiliaries, professional nurses, doctors, etc.)

2. Data collection instruments should be redesigned.

Local and national logistic staff should engage in a revision of Form S06-07, to include two new columns: one column allowing for adjustments to inventory, the other to calculate the maximum amount. The “programmed amount” column should be deleted because it causes misunderstandings. This simple change would mean the amount of the request will be derived from actual consumption, not from plans.

Such a redesign effort should also include printed instructions on the back. Current forms are not self-explanatory. Instructions should guide the user on the information that should be included and the required calculations.

Workshops with regional and area staff should be held to introduce this change and to identify other weaknesses in the current data collection system.

3. The maximum-minimum inventory control system should be strengthened.

The MOH should strengthen its maximum-minimum inventory control system. The current lead time is 10 months. The minimum should be 10 months and the maximum 17 months at all levels of the system, except at the central level. At the central level, the maximum should be 24 months. Annual programming should also take into account an emergency stock to cover possible delays in any part of the process.

This means that at the moment of letting the purchase contract, 24 months of drawdowns should be included in the calculation and for this, the balances at the national level existing at the moment of the annual need estimation should also be taken into account. This does not mean that the central warehouse ever has 24 months of consumption in its central storage since at the moment when the stocks arrive, there will be approximately only 12-months stock at the national level, enough to cover drawdowns until the next purchase arrives.

If it proves impossible to establish a 24-month maximum, quarterly deliveries should be negotiated with suppliers to help improve the distribution: 40 percent during the first quarter and 20 percent in each of the remaining quarters. Also, the MOH's Administrative Directorate should study strategies to simplify (and shorten) the procurement process; SIGAF is currently working on exactly this issue. Long-term contracts—three or four years—with laboratories and international suppliers could also be useful in this regard and might even result in some economies of scale.

4. The status and qualifications of logistics staff should be upgraded.

The MOH must improve the profile of staff selected for logistics responsibilities. In the regions, relatively low-level warehouse staff are responsible for distribution. In the areas, the system is worse, being improvised with the person “in charge” of logistics also fulfilling other functions, sometimes quite menial ones. Current CESAR and CESAMO staff do not have the scope or time to monitor stocks and, thus, they frequently request and receive products which they will be not able to use before the expiration date. Logistics staff should have enough analytic background and initiative to keep adequate track of information and simple data analysis and have some ability in problem solving.

In each health area, one person should be assigned responsibility to manage the warehouses, analyze the quality of data received, process requests, make requests to the regional office, and to carry out evaluations. Such a staff upgrade will likely require additional MOH budget support.

5. Supervision should be improved.

Training without follow-up is not sufficient; supervision is important. MOH central office staff should travel with more frequency to supervise regional and area warehouses.

Likewise, warehouse staff should program supervisory visits to the area level when quarterly distribution has ceased and the work volume decreased. This will strengthen the skills of the

person being supervised and help foster the information and inventory control systems. Such supervision visits will also ensure that the warehouses are being managed properly and should offer an opportunity to follow up on the work plan of the person being supervised. This opportunity should be taken to follow-up on the work plan of the person being supervised also.

6. Scare resources should be maximized.

Little long-term improvement can be achieved without an adequate budget, and inadequate procurement is a major contributor to medicine stock-outs. To ensure enough funds for the purchase of medicines, the MOH will have to either (1) lobby for more money at its disposal for medicine purchase, or (2) make better use of its current budget allocation. If additional resources will not come from the GOH, it appears that the MOH should undertake an enhanced program of cost recovery. Some years ago, the MOH established prices for services; they are now significantly out of date. These prices should be updated to reach at least 10 percent of the real cost of the total purchase of medicines. For the patient, it is better to pay the MOH approximately 3 percent of the drugstore price for medicines, instead of buying them at the drugstore.

If the budget is fixed before real needs are calculated, then the MOH should prioritize better and purchase 100 percent of (reduced) needs according to available resources. For example, even when the annual medicine budget was increased during the last several years, 100 percent of basic medicines were still not purchased because money was spent purchasing non-essential drugs. It is recommended that, given financial constraints, the system for the purchase of essential drugs be tightened to ensure the provision of as much of A and B category medicines as possible. Type C medicines (non-lifesaving ones) should likely not be purchased with scare MOH central funds but acquired locally with locally generated income.

7. Pilot studies should be undertaken.

A pilot study worth experimenting with is the creation of a revolving fund for drug purchases at the area or CESAMO level. This model has functioned successfully in other Latin American countries, and, in fact, in some CESAMOs such as Ojojona, an NGO-sponsored revolving fund drug project is reported to be working rather successfully.

The MOH should also study the possibility of decentralizing some medicine purchases, perhaps on a pilot basis in one region with specially trained staff. Such a study could evaluate the benefits and prices obtained by this process versus the prices obtained by the Ministry at the central level.

The MOH should also conduct a study of the possibility of privatizing the entire procurement system. USAID could be approached to see whether the project could support such a study.

LOGISTICS SOW QUESTIONS

How can the Ministry of Health’s Logistics System be strengthened to ensure that the service centers always have an adequate level of supplies? How can be it ensured that the services delivery centers have the required amount of IUD insertion equipment?

(See preceding recommendations)

Regions and health areas visited do not have IUD insertion equipment in their warehouses; all have been delivered to their final destination. The UPSs visited have this equipment and are using it. To date, 229 USAID-donated IUD insertion kits have been sent to CESAMOS; another 350 kits are in the process of being donated. More autoclaves are needed in UPSs of high activity.

How can they improve balance reports so that distributions do not cause over-supply or under-supply?

Regional staff should add the balances reported by the areas to the balances in their warehouse; area staff should add the balance in their warehouses to the aggregated balance reported by the UPSs. As it is now, the regions report only partial balances. The regional warehouses have balance information from the field, but these are not included in the form sent to the central level; in this format they only include balances of the regional warehouse. Additionally, balances at the UPSs also need to be monitored more closely; there is no consistency between final balances reported in one quarter compared to initial balances of the next quarter, and there is no analysis of these errors. Training and supervision are needed to ensure the improvement of the quality of these data.

How can the contraceptives use report be improved to have reliable data in a timely manner?

A daily record should be instituted to gather information on the number (units) of contraceptives dispensed to users. This form can include monthly totals by type/brand of contraceptive. A final line at the bottom of the page could be added for subtotals and totals.

The regions should include the contraceptive use reported by the areas on the S06-07 form, and the areas should include use reported by UPSs. To date, under the “*Total Salidas*” column, the common practice is to include only distributions made from the warehouse. This column should be modified and called “*Total Consumido*.”

Routine follow-up should be carried out to improve the timeliness of reporting. Currently, there are no follow-up, reminders, or attention calls to improve this issue. A letter at the end of the period, another on the due date, and another after a week can motivate lower-level staff.

APPENDIX E

Management System Tables

Table 1**Distribution of the Health Network by Population**

Region	Total Population 1998	Population by Region (%)	Population by CESAMO (*)	Population by CESAR (**)	Population by Area Hospital
Metro: Francisco Morazan	791,445	13.4	46,556	23,983	No area hospitals
1: El Paraiso and Francisco Morazan	581,401	9.9	26,427	4,507	581,401
2: Comayagua, Intipuca, and La Paz	621,678	10.5	44,405	4,571	310,839
3: Cortez, Santa Barbara, Yoro, and 2 municipalities in Lempira	1,574,783	26.7	30,284	9,661	393,696
4: Choluteca, Valle, 3 municipalities in Francisco Morazan, 2 in El Paraiso, and 1 in La Paz	604,645	10.2	24,186	3,876	604,645
5: Ocotepeque, Copan, Lempira, and 2 municipalities in Santa Barbara	637,981	10.8	20,580	4,225	318,991
6: Atantida, Colon, Islas de la Bahia, 3 municipalities Yoro, and 1 in Olancho	658,945	11.2	25,344	6,398	131,798
7: Olancho	383,751	6.5	20,197	3,426	No Area hospitals
8: Gracias a Dios	46,610	0.8	6,659	1,793	46,610

(*) Regional population divided by number of CESAMOs.

(**) Regional population divided by number of CESARs plus CESAMOs, because by definition the latter function as CESARs in terms of public health promotion in a particular sector, in addition to provide medical ambulatory consultation and pharmacy.

Source: MOH Statistical Department.

Table 2**Distribution of Population by Area in Regions Assisted by USAID**

Region/Area	Total Population	Population by Area (%)	Population by CESAMO	Population by CESAR (*)
Region 1	581,401	100.0		
Health Area No. 1	253,978	46.7	63,495	6,047
2	104,116	17.9	20,823	3,856
3	109,709	18.9	18,284	3,783
4	113,599	19.5	16,228	3,664
Region 2	621,678			
Health Area No. 1	194,720	31.3	48,680	4,993
2	128,811	20.7	32,203	4,294
3	142,322	22.9	142,322	8,895
4	78,579	12.6	39,290	2,806
5	77,246	12.4	25,749	3,359
Region 3	1,574,783			
Health Area No 0	408,185	25.9	31,399	20,409
1	222,393	14.1	44,479	10,590
2	254,491	16.2	42,415	12,725
3	110,985	7.0	27,746	7,928
4	213,633	13.6	21,363	7,630
5	106,229	6.7	35,410	6,249
6	141,383	9.0	28,279	7,069
7	117,484	7.5	19,581	5,108

(*) Area population divided by number of CESAMOs.

(**) Area population divided by number of CESARs plus CESAMOs, because by definition the latter function as CESARs in terms of public health promotion in a particular sector, in addition to provide medical ambulatory consultation and pharmacy.

Source: MOH Statistical Department.

APPENDIX F

Maternal and Neonatal Information

APPENDIX G

Water and Sanitation Tables, Figures, and Text

Rural Water Supply, Sanitation and Environmental Health Tables and Figures

Table 1

USAID and Counterpart Funding for Water Supply and Sanitation Projects

Project	USAID Funding	Counterpart Funding	Total Funding
Rural PSS (1981-88)	\$ 17,872,000	\$ 12,400,000	\$ 30,272,000
Health Sector II (1989- April 1997)	21,074,000	13,500,000	34,574,000
Total	\$ 38,946,000	\$ 25,900,000	\$ 64,846,000

Source: Caudill, April 1997.

Table 2

Results of National Survey of Child Mortality for 1986-1995 (per 1000)

	Age of Child				
	Less than 5 yrs	Neonatal (less than 1 month)	Postneonatal (1 to 11 month)	1 to 4 years old	1 month to 4 years
National Child Mortality	54	20	20	14	34
Mortality Attributed to Diarrhea	20.6 %	1.2 %	32.1 %	36.4 %	33.9 %
Leading Cause of Mortality	IRA	Trauma/ asphyxia	Diarrhea	Diarrhea	Diarrhea
Water source: on property	44	20	15	10	25
other	70	20	28	23	51
Excreta disposal: toilet	33	18	12	3	15
latrine or other	60	20	23	18	41
No water increased risk (x)	1.6	1.0	1.9	2.3	2.0
No toilet increased risk (x)	1.8	1.1	1.9	6.0	2.7

Source: ENESF-96.

Table 3**Goals and Achievements in Expansion of PSS Coverage**

	1987	1991/92	1996	2000	2004
Water Supply Coverage (tap on property)					
GOH and USAID goal	45% (85)	55% (90)	65% (95)	75%	-
SANAA goal: Rural	-	-	-	68%	75%
Actual: Rural + Urban	55.9%	65.2%	69.2%	-	-
Actual: Rural	41.4%	47.0%	52.7%	-	-
Toilet or Latrine Coverage					
GOH and USAID goal	45% (85)	55% (90)	65% (95)	75%	
Actual: Rural + Urban	59.5%	63.0%	73.8%	-	
Actual: Rural	41.8%	43.1%	57.0%	-	

Source: ENESF-96; SSII Project Paper 522-0216, 1994.

Table 4**Trends in Child Mortality (Direct Estimates)**

	Age of Child				
	Child (less than 5 yrs)	Infant (less than 1 yr)	Neonatal (less than 1 mo)	Postneonatal (1-11 mo)	1 to 4 years
From 1986-1990					
National	60	45	21	24	16
Urban	47	38	18	19	9
Rural	68	49	22	27	20
From 1991-1995					
National	48	36	19	17	13
Urban	38	33	19	13	6
Rural	55	37	19	19	18

Source: ENESF-96; SSII Project Paper 522-0216, 1994.

Table 5

Inventory of Rural Water Supply Systems (200 - 2000 Inhabitants)
Inventory 85% complete as of March 31, 1998

Status	Description	Help Needed	Number	% of Total
A	Functioning well, chlorinating	Encourage C.B. to keep up the good work.	290	9
B	Some software problems, little work required to fix	Organize, train C.B., help junta fix problems.	1997	59
C	Investment needed: community resources could fix problems	Work with C.B. to gather resources and fix problem.	869	26
D	Major investment needed	Help find donor to fund.	202	6
Total			3358	100

Source: Caudill, Larios, 1998.

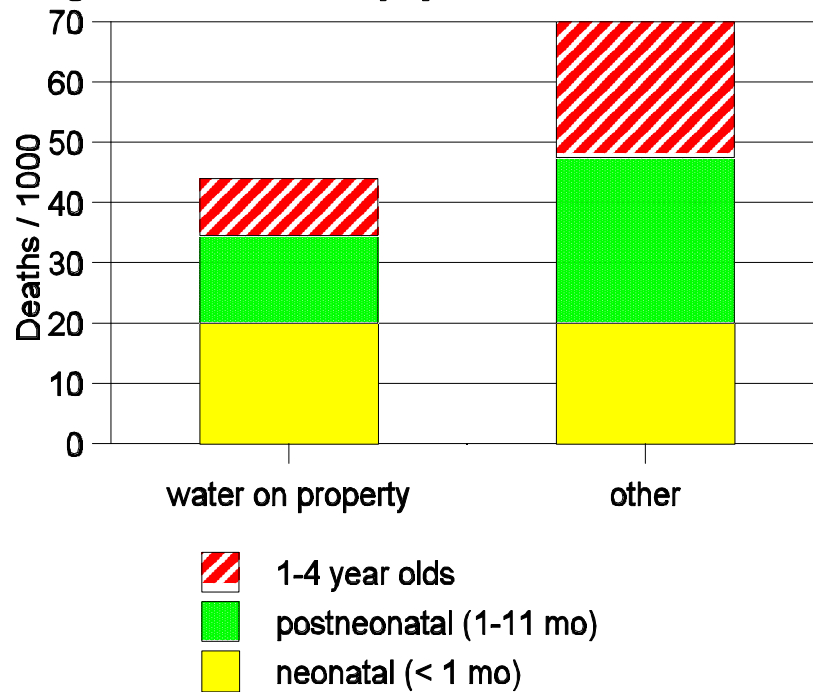
Table 6**Water and Sanitation Projects by Financing Source, 1998 (as of 1/30/98)**

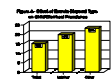
Organization	Number of Projects (1)				Percent of Total
	Finished	In Construction	Approved	Total	
World Vision	19	6	8	33	32%
UNICEF	10	3	14	27	26%
CARE	0	0	12	12	12%
Plan, Honduras	2	1	7	10	10%
Rotary Club	2	1	3	6	6%
C.H.	3	1	2	6	6%
American Water Relief	1	0	0	1	1%
Co Operación Italian	0	1	0	1	1%
Honduras Outreach	1	0	0	1	1%
Fondo Christian Para Niños de Honduras	0	1	0	1	1%
HIS	0	3	0	3	3%
Municipio La Union, Olancho	1	0	0	1	1%
Total	39	17	46	102	100%

(1) Includes both new systems and rehabilitation of existing systems.

Source: Rivera, 1998.

Figure 1 - Child Mortality by Access to Potable Water





APPENDIX H

In-Country Evaluation Calendar

May 1998

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	18 TPM	19 TPM	20	21 2:00 Meeting AID Director	22 Counterpart Cocktail	23 Team Meeting
24	25 Field Travel Comayagua	26 Field Travel Siguatepeque	27 Field Travel San Pedro S	28 Field Travel San Pedro S	29 Field Travel San Pedro S. Comaygua	30 Debriefing Team Meeting
31 Arrival: DS						

June 1998

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Meetings	2 Team Meeting: Early Conclusions	3 PP/ BU Write-up Field Travel: DS	4 PP/ BU Write-up Debrief SO Team	5 Final text: PP & BU Field Travel DS	6 Departure: PP, BU Field Travel DS
7	8 Field Travel DS	9 Field Travel: Sab. Grande FS/AB Field Travel DS	10 Final text: MG Field Travel DS	11 Depart. MG Final Text AB Field Travel DS	12 Departure: AB	13
14	15 Debrief AID & MOH	16 Draft Report Submitted	17 Preparing Appendices Departure: DS	18 Preparing Appendices Departure: FG	19 Comments due from AID & MOH	20